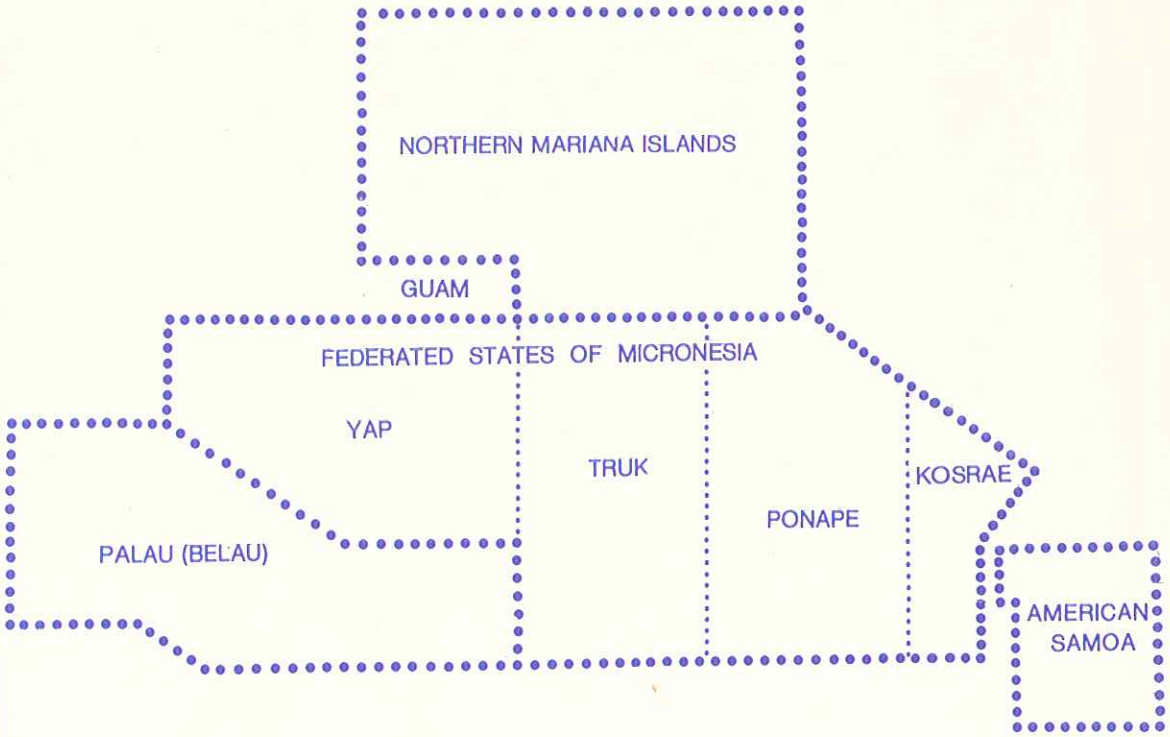
Water Resources Data
Hawaii - other Pacific Areas
Water Year 1981

Volume 2. Guam, Northern Mariana Islands, Federated States of Micronesia, Palau Islands, and American Samoa



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT HI-81-2
Prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau Islands, American Samoa, and with other agencies

CALENDAR FOR WATER YEAR 1981

1980

OCTOBER

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1981

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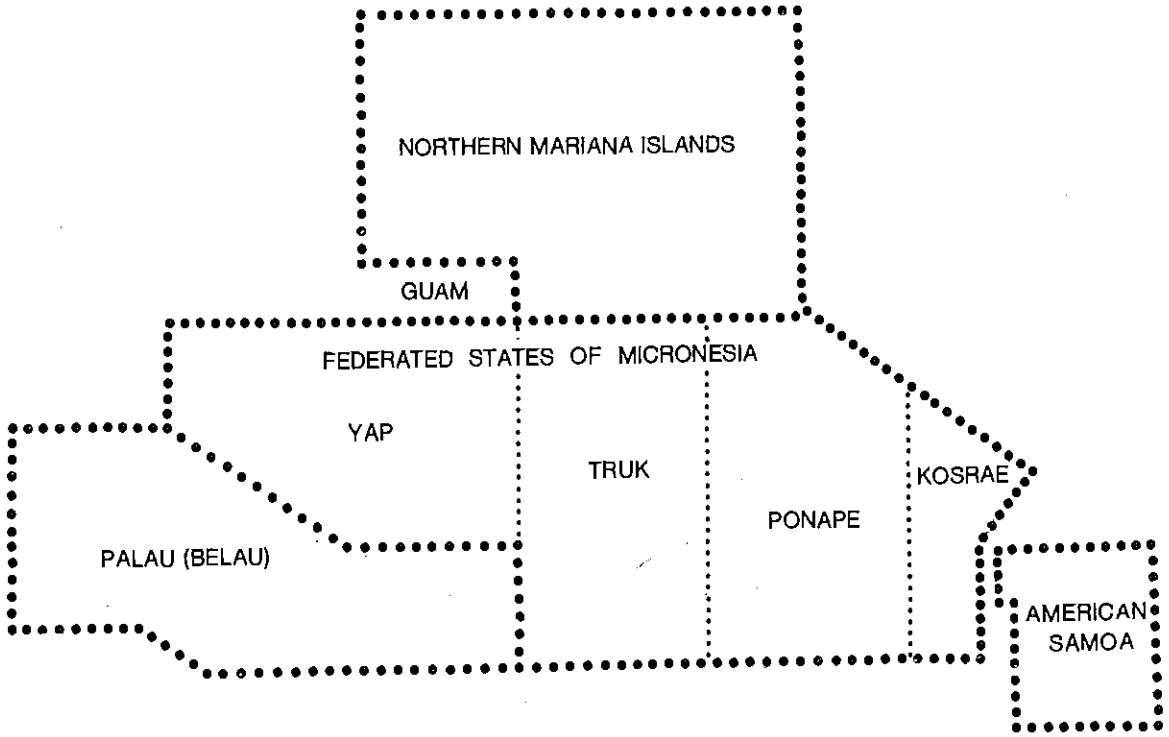
Water Resources Data
Hawaii - other Pacific Areas
Water Year 1981

Volume 2. Guam, Northern Mariana Islands, Federated States of Micronesia, Palau Islands, and American Samoa



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT HI-81-2
Prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau Islands, American Samoa, and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Hawaii
and other Pacific Areas write to
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U.S. Geological Survey
300 Ala Moana Boulevard, Rm. 6110
P. O. Box 50166
Honolulu, Hawaii 96850

1982

PREFACE

This report was prepared by personnel of the Hawaii district of the Water Resources Division of the U.S. Geological Survey under the supervision of Benjamin L. Jones, District Chief, and J. D. Bredehoeft, Regional Hydrologist, Western Region.

This report is one of a series issued by State. General direction for the series is by Philip Cohen, Chief Hydrologist, U.S. Geological Survey, and R. J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Hawaii and other Pacific Areas are in two volumes as follows:

Volume 1. Hawaii

Volume 2. Guam, Northern Mariana Islands, Federated States of Micronesia, Palau Islands, and American Samoa

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Volume 2 of water resources data for the 1981 water year for other Pacific areas consist of records of stage, discharge, and water quality of streams; stage of a reservoir; and water levels in wells and springs. This report contains discharge records for 41 gaging stations; stage only record for 2 gaging stations; water quality for 3 gaging stations, 39 partial-record stations; water temperature for 60 gaging stations; and water levels for 10 observation wells. Also included are 47 low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Governments and Federal agencies in other Pacific areas.

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b. Identifiers/Open-Ended Terms

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SURFACE-WATER AND WATER-QUALITY STATIONS,
IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Letters after station name designate type of data:
(d), discharge; (e) elevation or gage height, (c), chemical;
(b), biological; (m), microbiological; (t) temperature; (s), sediment

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WATER RESOURCES DATA FOR HAWAII AND OTHER PACIFIC AREAS, 1981

Volume 2

INTRODUCTION

Water resources data for the 1981 water year for Hawaii and other Pacific areas, Volume 2, consist of records of stage, discharge, and water quality of streams; and stage of a reservoir; and water-levels of wells and springs. This report contains discharge records for 41 gaging stations; stage only records for 2 gaging stations; water quality for 3 gaging stations, 39 partial-record stations, water temperature for 60 stations; and water levels for 10 observation wells. Also included are data for 47 low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Governments and Federal agencies in other Pacific areas.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960 (June 30, 1960, for Hawaii and other Pacific Areas), these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. The records for other Pacific areas were contained in one volume entitled "Surface Water Supply of Mariana, Caroline, and Samoa Islands." Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia, 22202.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report HI-80-2."

In this volume, the spelling of names, drainage areas and locations for most stations in Palau, Yap, Truk, Ponape, and Kosrae differ from those used in "Water Resources Data for Hawaii and other Pacific Areas", 1968 to 1980. These had been based on 1954 U.S. Army Map Service series W 856 maps with a scale of 1:25,000 and 10-meter contours (International spheroid). The revised names and figures were based on the 1981 USGS maps with 1:10000 scale and 5-meter contours (Clarke spheroid of 1866).

The water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161. Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (808) 546-8331.

COOPERATION

The U.S. Geological Survey have had cooperative agreements for the systematic collection of streamflow records with the Territory of Guam since 1953, with the Territory of American Samoa since 1957, and with the other Pacific Islands since 1968. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Government of Guam, P. B. Calvo, governor.
Government of Northern Mariana Islands, P. P. Tenorio, governor.
Federated States of Micronesia, T. Nakayama, president.
Republic of Palau, H. I. Remeliik, president.
Government of American Samoa, P. T. Coleman, governor.

Assistance in the form of funds or services are given by the Public Works, U.S. Navy, and the Corps of Engineers, U.S. Army.

SUMMARY OF HYDROLOGIC CONDITIONS

Based on records at 6 selected streams in the area covered by this volume, as shown in figure 1, indicated the annual mean runoff for 1981 water year was mostly in the excessive range (flow in the upper 75 percent of record) on the islands of Palau, Yap, and Tutuila. Annual mean runoff on the islands of Guam and Kosrae was in the normal range (flow between 25 and 75 percent of record) and was deficient (flow in the lower 25 percent of record) on the island of Ponape.

Streamflow at the Ylig River near Yona, Guam (fig. 2), was excessive for December and August; deficient for September; and normal for October, November, and January through July. Annual mean runoff was in the normal range at 104 percent of the annual median.

At the Diongradid River (fig. 2) on the island of Babelthuap, Palau Islands, monthly mean was excessive for December, January, February, July, and August; deficient for October, November, April, May, and September; and normal for March and June. Annual mean runoff was in the excessive range at 119 percent of the annual median.

On the island of Yap, Caroline Islands, streamflow at the Qaringeel Stream (fig. 3) was normal for December, March, April, June, and August; excessive for October, January, February, July, and September; and deficient in November and May. Annual mean runoff was in the excessive range at 117 percent of the annual median.

Streamflow at the Nanpil River in Ponape (fig. 3) was normal for January and February, and deficient for other 10 months of the year. Annual mean runoff was in the deficient at 68 percent of the annual median.

On the island of Kosrae, streamflow at the Okat River (fig. 4) was normal for December through February, May and June; excessive for November, April, July through September; and deficient in October and March. Annual mean discharge was in the normal range at 120 percent of the annual median.

At Tutuila, American Samoa, streamflow at Aasu Stream at Aasu (fig. 4) was in the normal range for December, January, May, June, August, and September; excessive for October, February through April, and July; and deficient during November. Annual mean runoff was in the excessive range at 139 percent of the annual median.

DEFINITION OF TERMS

Definition of terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined as follows:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet of 325,851 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endomedium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

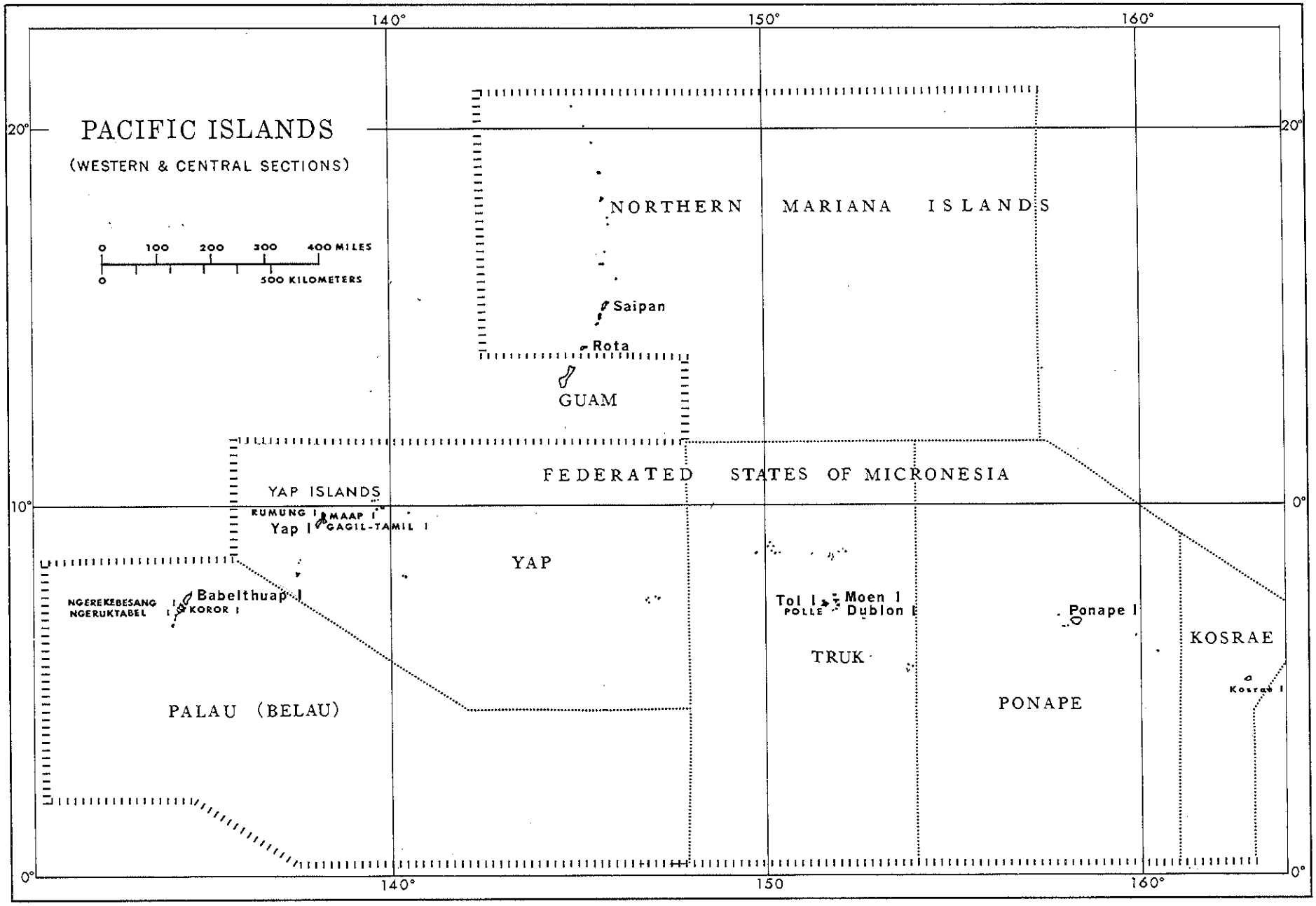
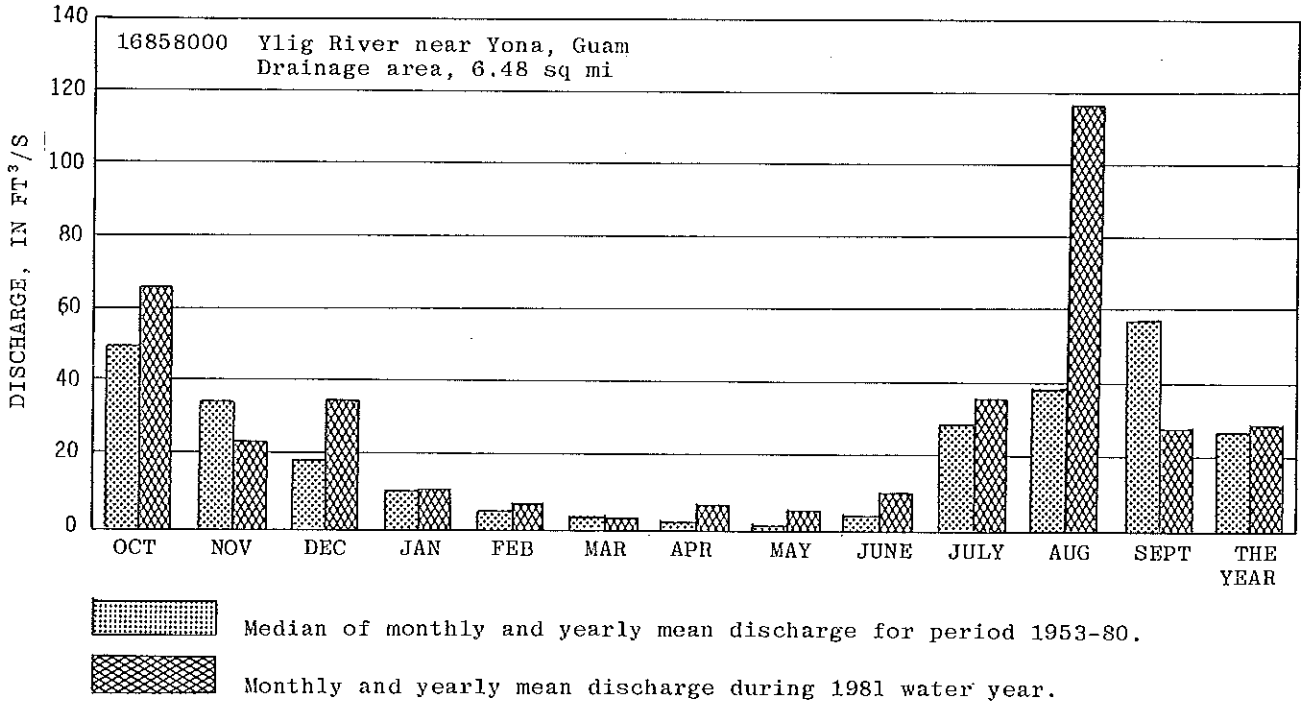


FIGURE 1.--LOCATIONS OF PACIFIC ISLANDS.



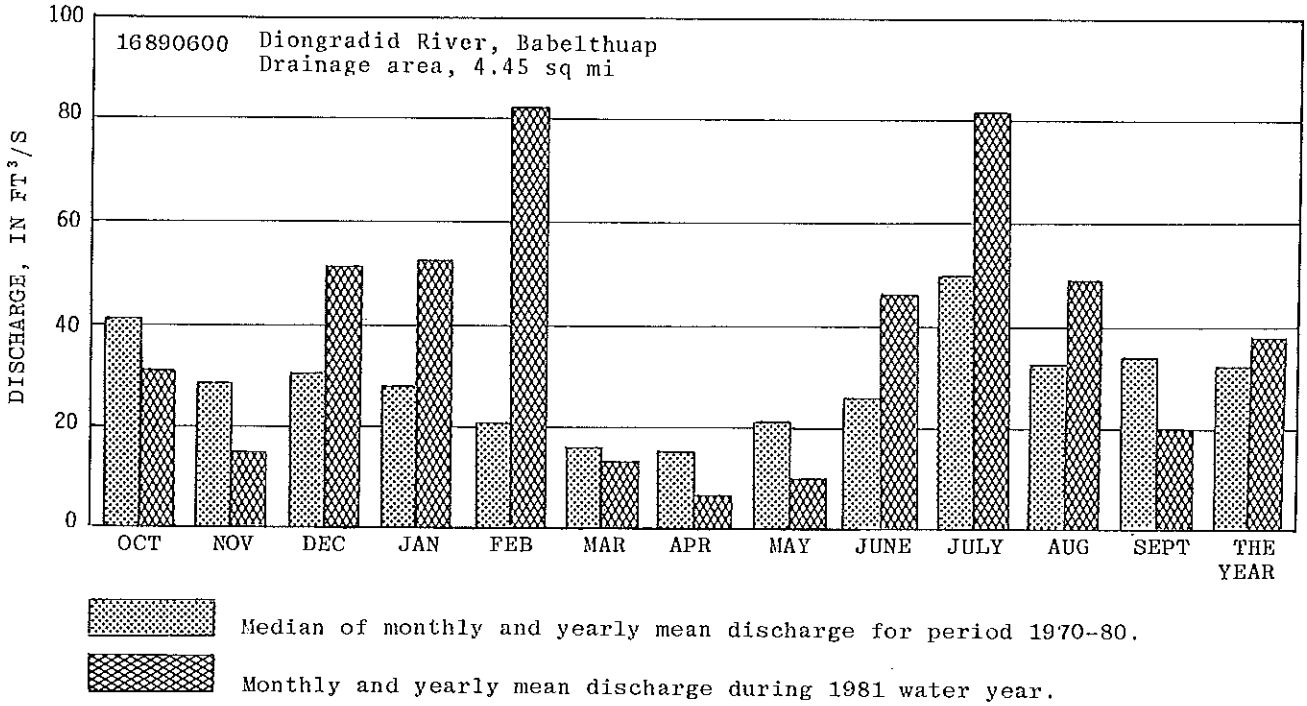
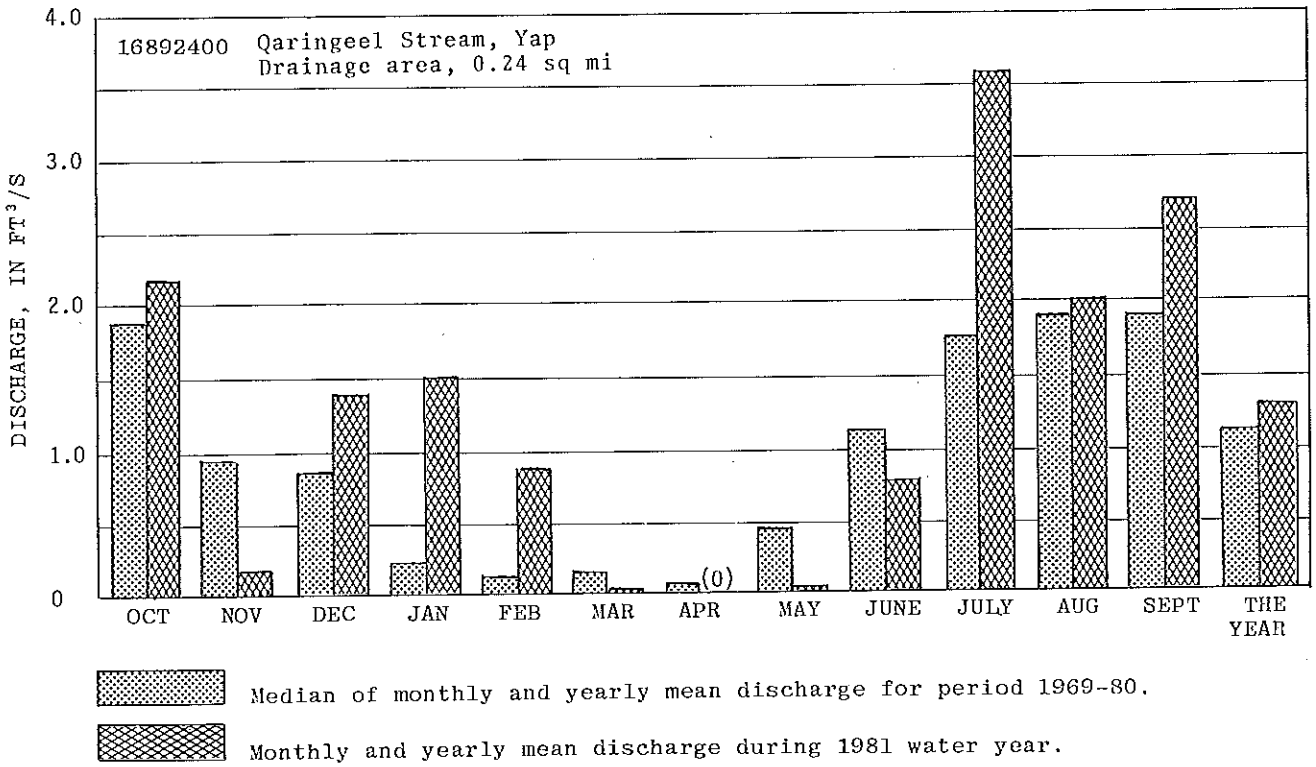


FIGURE 2.--DISCHARGE DURING 1981 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON GUAM AND BABELTHUAP.



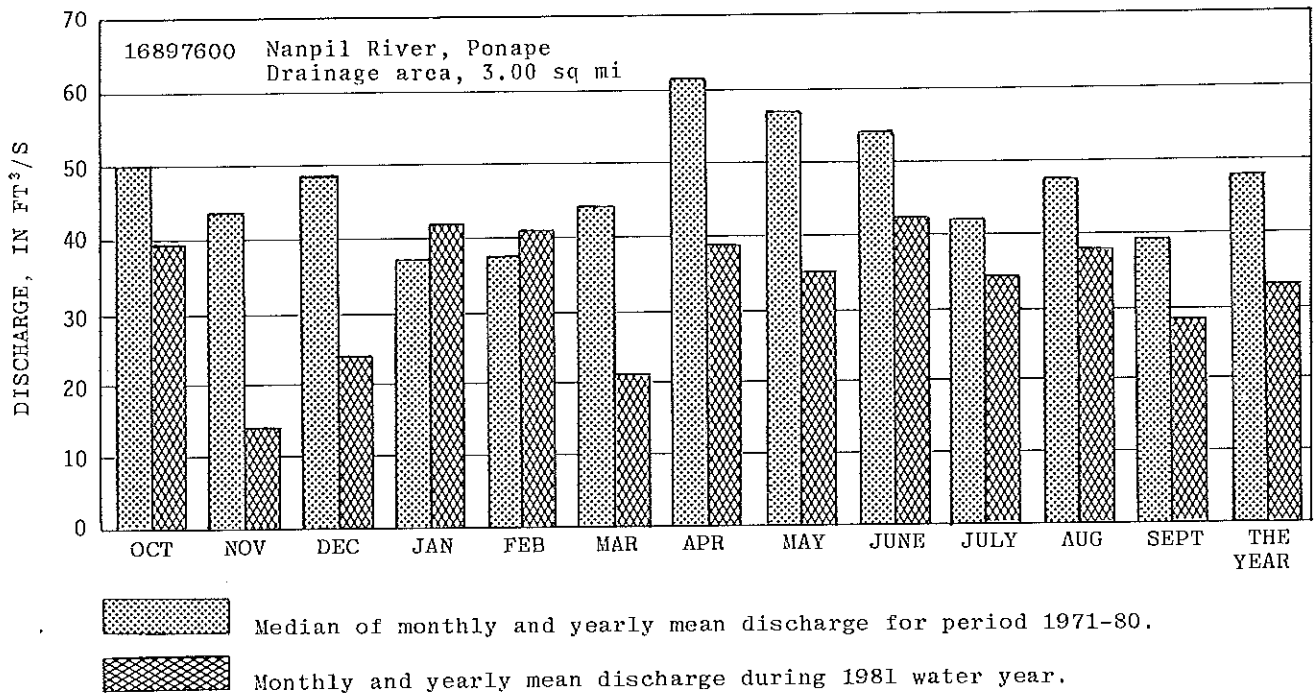
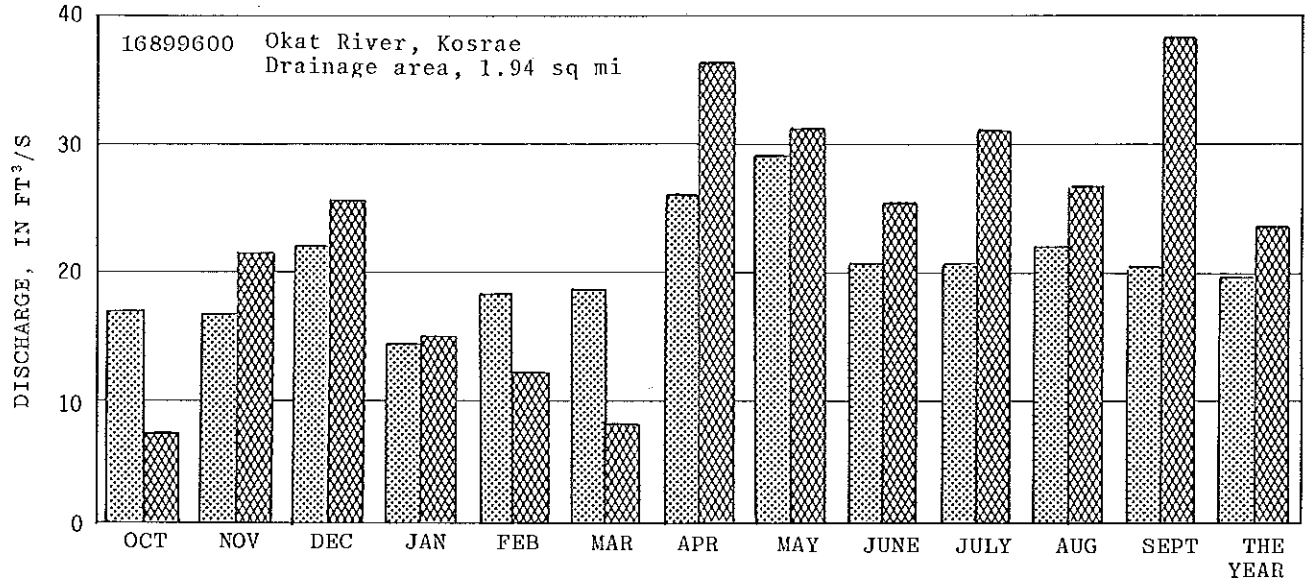
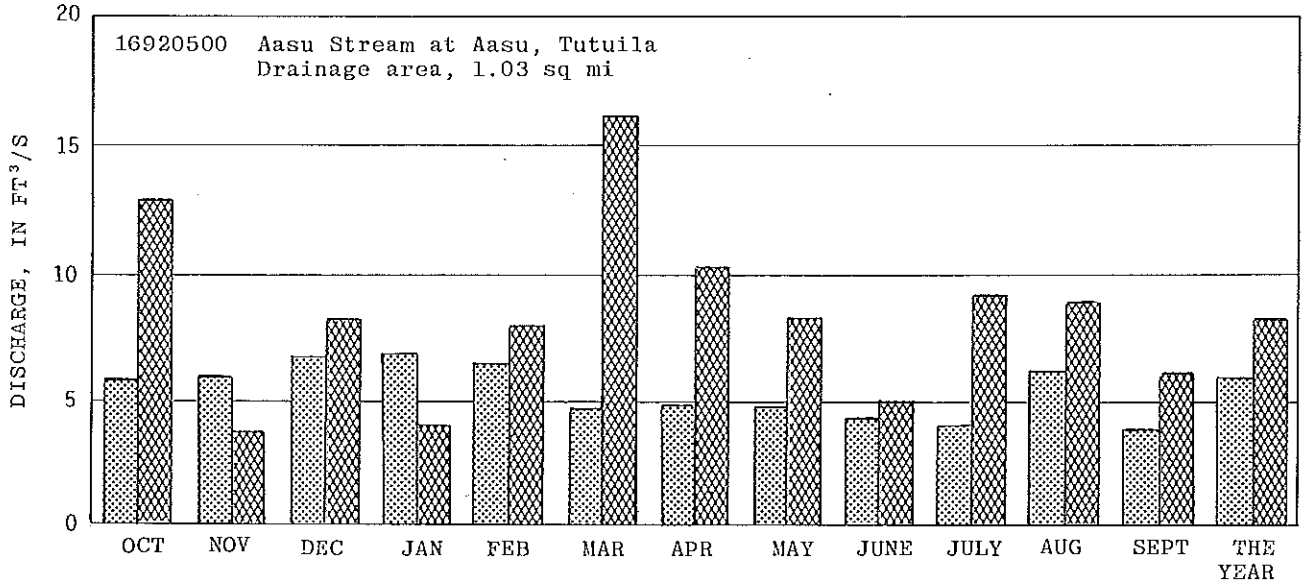


FIGURE 3.--DISCHARGE DURING 1981 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON YAP AND PONAPE.



Median of monthly and yearly mean discharge for period 1972-80.

Monthly and yearly mean discharge during 1981 water year.



Median of monthly and yearly mean discharge for period 1959-80.

Monthly and yearly mean discharge during 1981 water year.

FIGURE 4.--DISCHARGE DURING 1981 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON KOSRAE AND TUTUILA.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biomass is the amount of living matter present at any time, expressed as the weight per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in g/m^3 (grams per cubic meter), and periphyton and benthic organisms in g/m^2 (grams per square meter).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

CFS-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, or 646,317 gallons or 2,447 cubic meters.

Chlorophyll refers to the green pigments of plants. Chlorphyll a and b are the two most common pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 milliliters is determined by the immediate or delayed incubation membrane filter method.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuing record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.

2. When water temperature records include observations taken one or more times daily.

3. When sediment discharge records include those periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (FT^3/S, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic average of individual daily mean discharges during a specified period.

Instantaneous discharge is the discharge at a particular instant of time. If this discharge is reported instead of the daily mean, the heading of the discharge column in the table is "DISCHARGE (CFS)."

Dissolved is that material in a representative water sample which passes through a 0.45 micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate. It is recognized that certain kinds of samples cannot be filtered; to provide for this, procedures that are considered equivalent to filtering through a 0.45-micrometer membrane filter will be identified and announced at a later date.

Suspended recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total". (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material".

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = \sum_{i=i}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

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

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 water.

Gage height (G.H.) 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.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The Classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control the growth of undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (Pc,pCi) is one trillionth (1 x 10) of the amount of radio-activity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 x 10 radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

Green-algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells/mL of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are grazers in the aquatic environment, the zooplankton are a vital part of the aquatic feed web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2•time) for periphyton and macrophytes and mg C/m^3•time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O_2/(m^2• time for periphyton and macrophytes and mg O_2/(m^3• time) for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times milligrams per liter times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total-sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weight concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexi-glass strips for periphyton collection.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexageria
Species.....Hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed Jackson turbidity units (JTU).

WDR is used as an abbreviation for "Water-Data Reports" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all main-stream stations are listed before the first main-stream station. Stations on tributaries to tributaries are listed in a similar manner. In the lists of gaging stations and water-quality stations in the front of this report, the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station, partial-record station, and water-quality station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 16884600 which appears just to the left of the station name includes the 2-digit number "16" plus the 6-digit downstream order number "884600." In this report, the records are listed in downstream order by islands. Locations of the stations are shown in figures 5-14.

NUMBERING SYSTEM FOR WELLS AND MISCELLANESOUS SITES

Miscellaneous downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2-digit number is a sequential number for a well or a miscellaneous site within a 1-second grid. In the event that there are more than one data site with the same latitude-longitude coordinates, different sequential numbers are assigned to each, "70", "71", etc., to obtain unique numbers. See figure 15.

The local well-numbering system for Guam was structured to contain seven digits based on a non-arbitrary, unique one-minute grid and 10-second subgrid system. One-minute parallel lines for both latitude and longitude are drawn on the map resulting in one-minute grids. Each grid is designated by a four-digit number. The first two digits represent minutes of latitude for the grid and the second two digits represent minutes of longitude for that grid. This establishes unique minute-grid numbers within Guam.

To distinguish wells within a minute grid, 10-second parallel lines for both latitude and longitude are drawn and 10-second subgrids are established within each one-minute grid. Each subgrid is designated by a two-digit number. The first represents 10 seconds of latitude for that subgrid and the second represents 10 seconds of longitude for that subgrid. This establishes unique 10-second-subgrid numbers within a minute grid. The fifth and sixth digits of the local number are these unique 2-digit subgrid numbers. The seventh digit is a sequential number used to distinguish different wells within a 10-second subgrid. It is assigned chronologically with the oldest or the only well within the subgrid having a sequential number of zero. See figure 16.

SPECIAL NETWORKS AND PROGRAMS

National stream-quality accounting network is an accounting network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on the river-basin accounting units designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in stream quality.

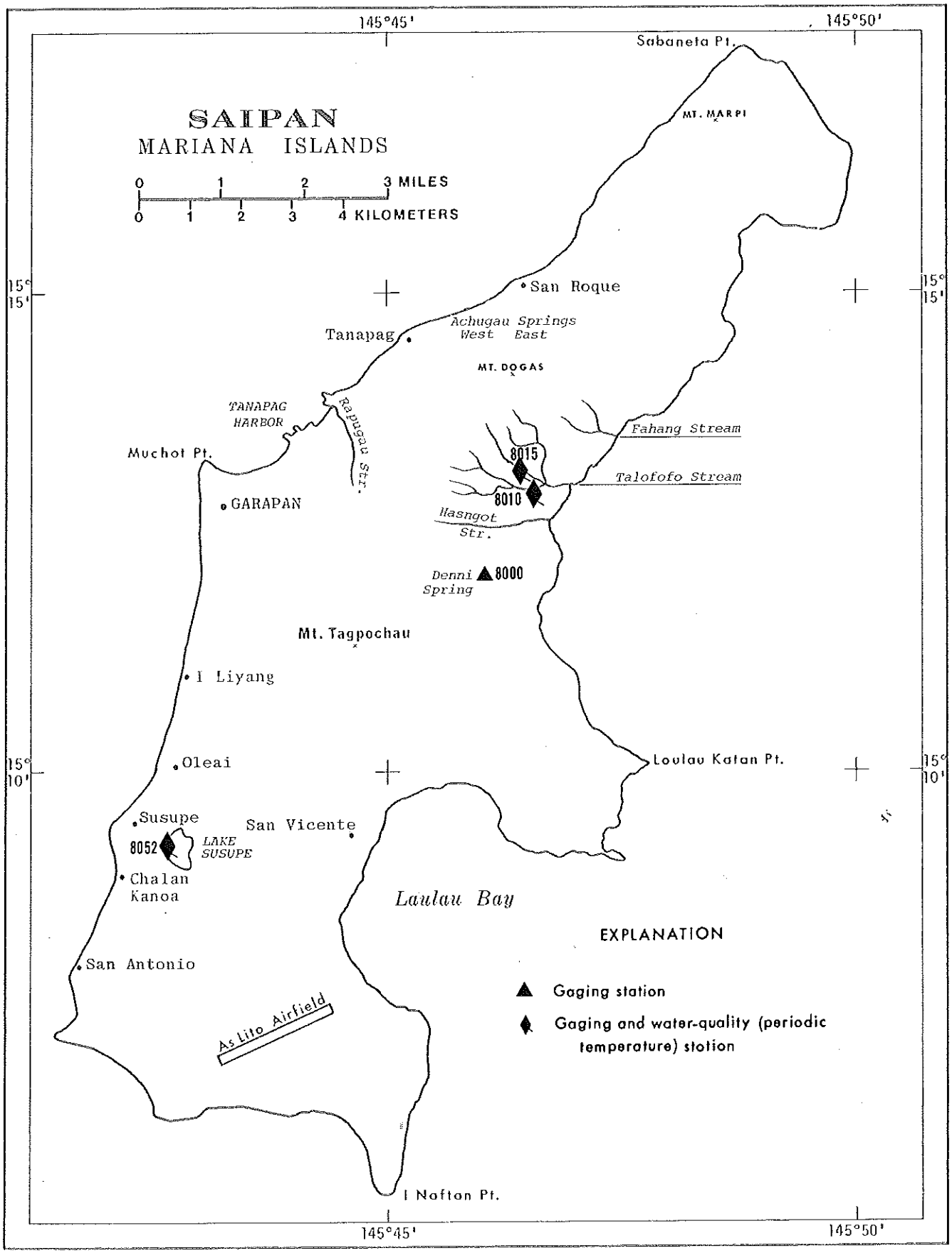


FIGURE 5. LOCATIONS OF GAGING STATIONS ON SAIPAN, MARIANA ISLANDS.

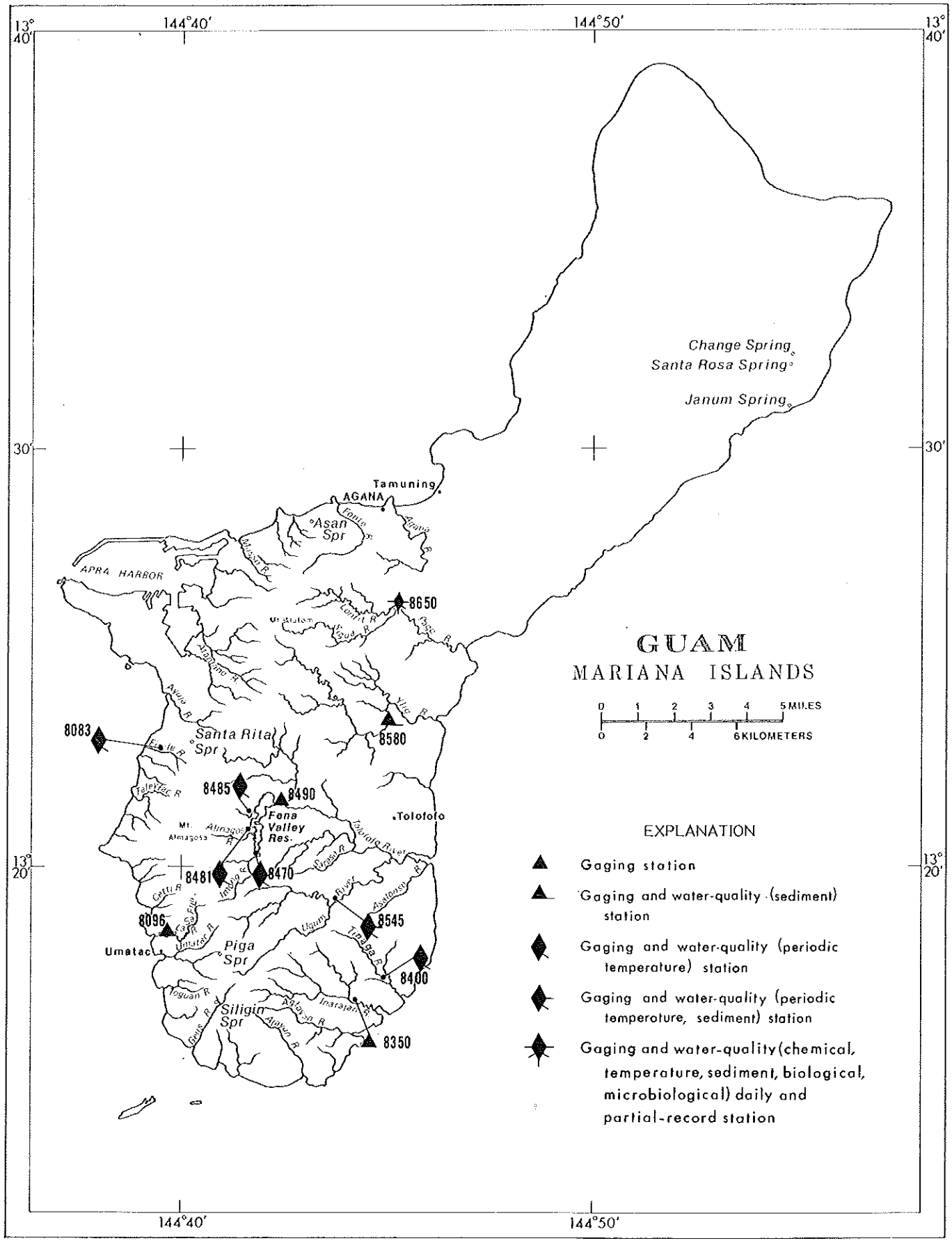


FIGURE 6.--LOCATIONS OF GAGING, WATER-QUALITY, AND PARTIAL-RECORD STATIONS ON GUAM.

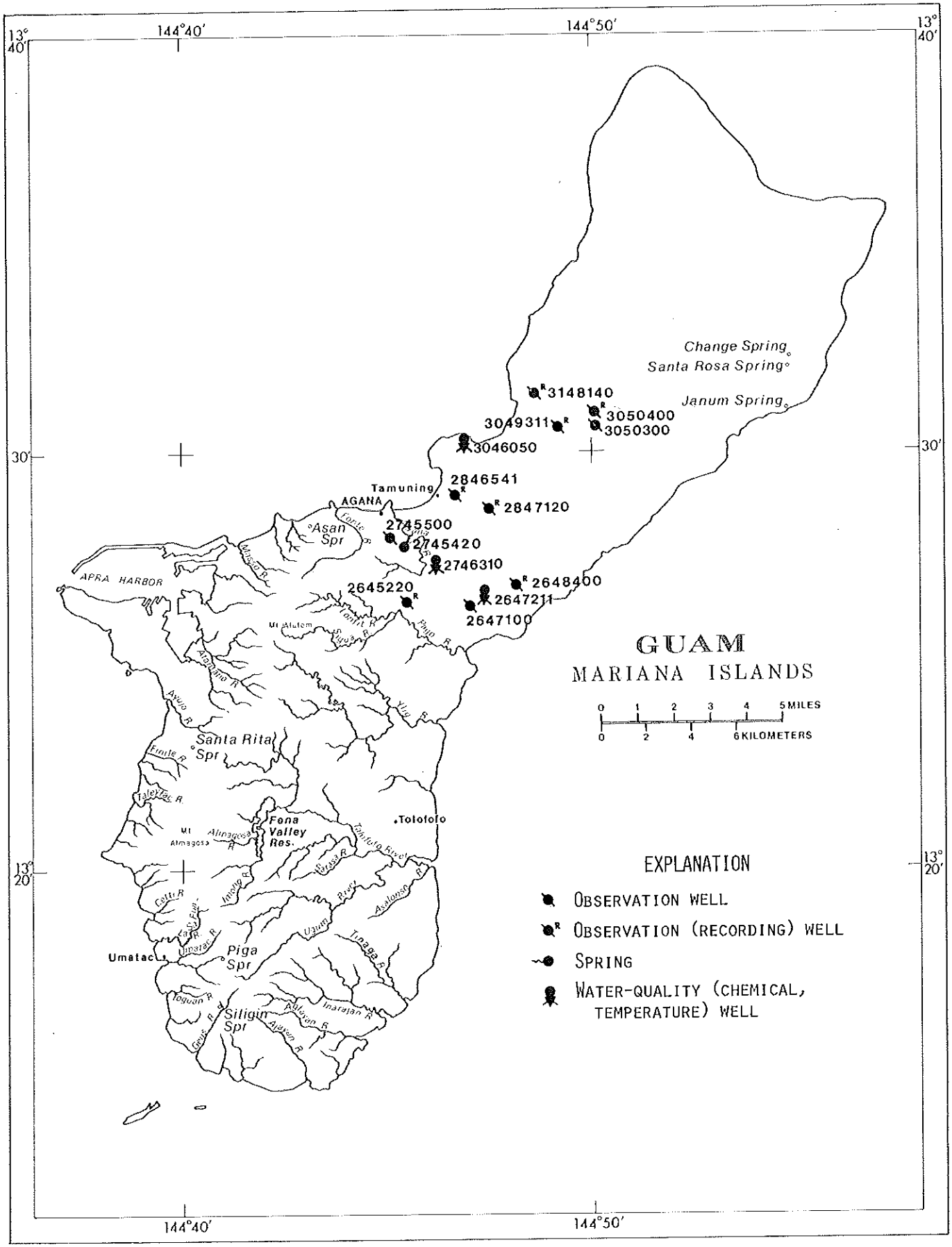


FIGURE 7.--LOCATIONS OF OBSERVATION WELLS, AND GROUND-WATER-QUALITY SITE ON GUAM.

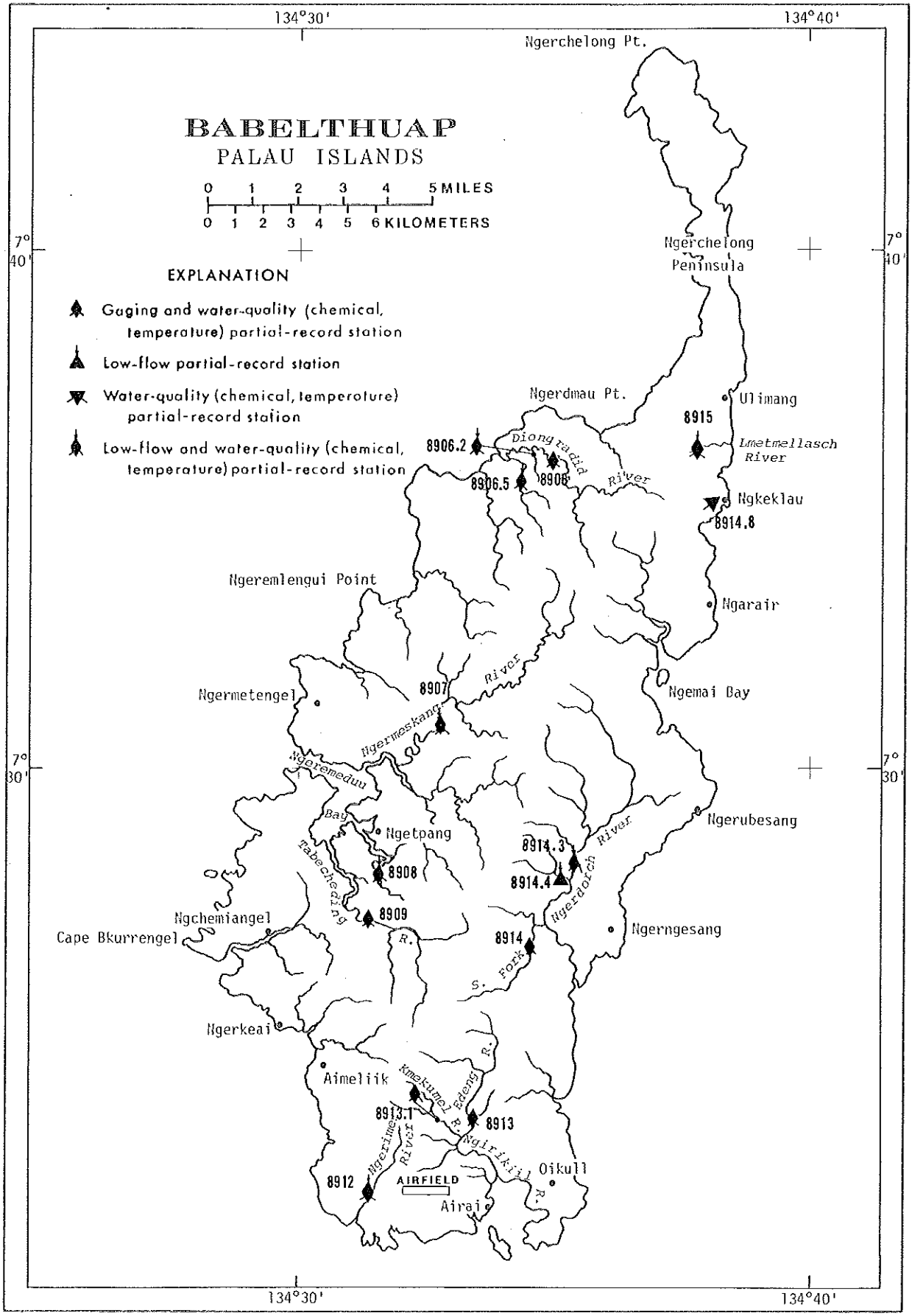


FIGURE 8.--LOCATIONS OF GAGING, LOW-FLOW AND WATER-QUALITY PARTIAL-RECORD STATIONS ON BABELTHUAP.

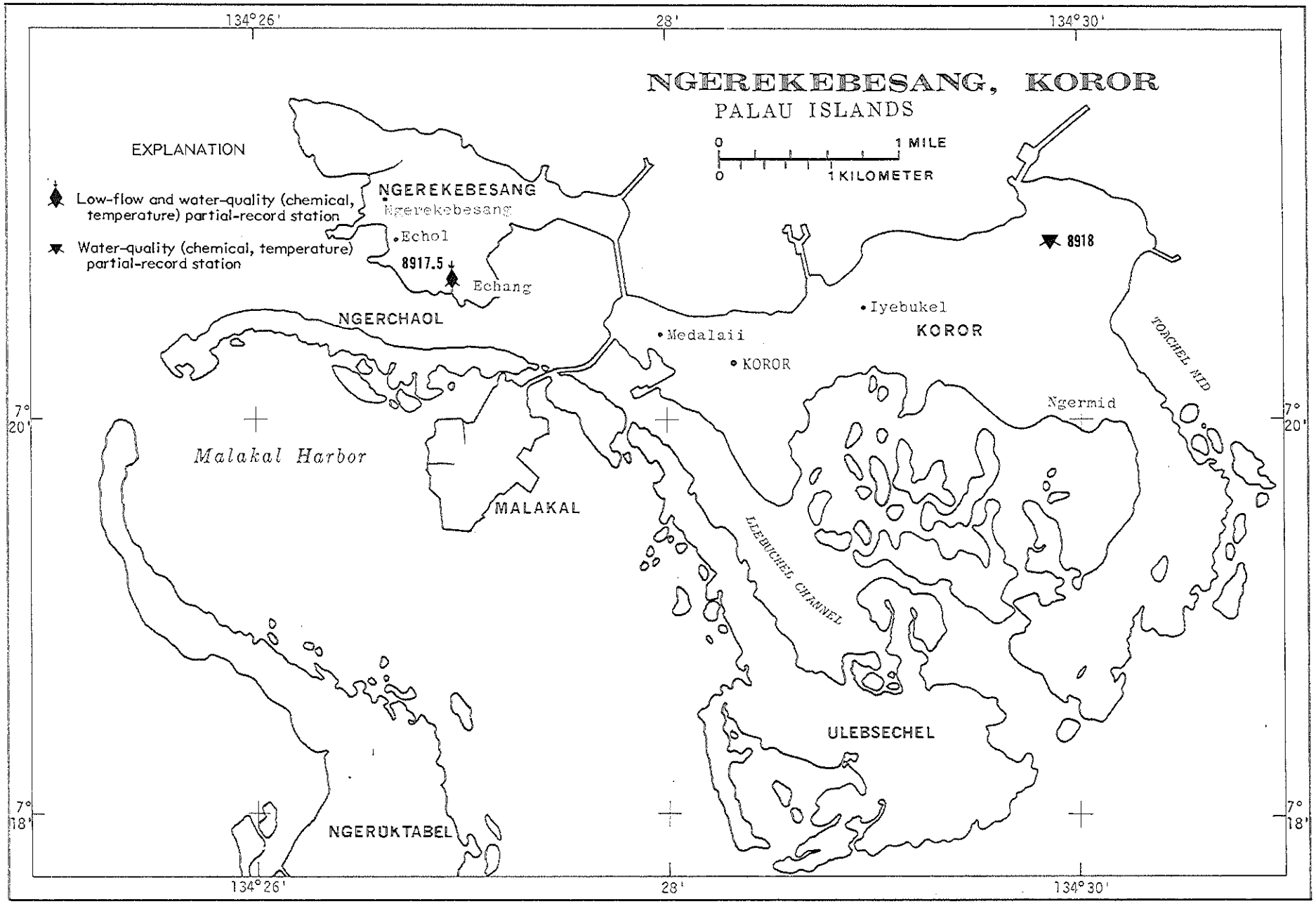


FIGURE 9.--LOCATIONS OF WATER-QUALITY PARTIAL-RECORD STATIONS ON NGEREKEBESANG, AND KOROR, PALAU ISLANDS.

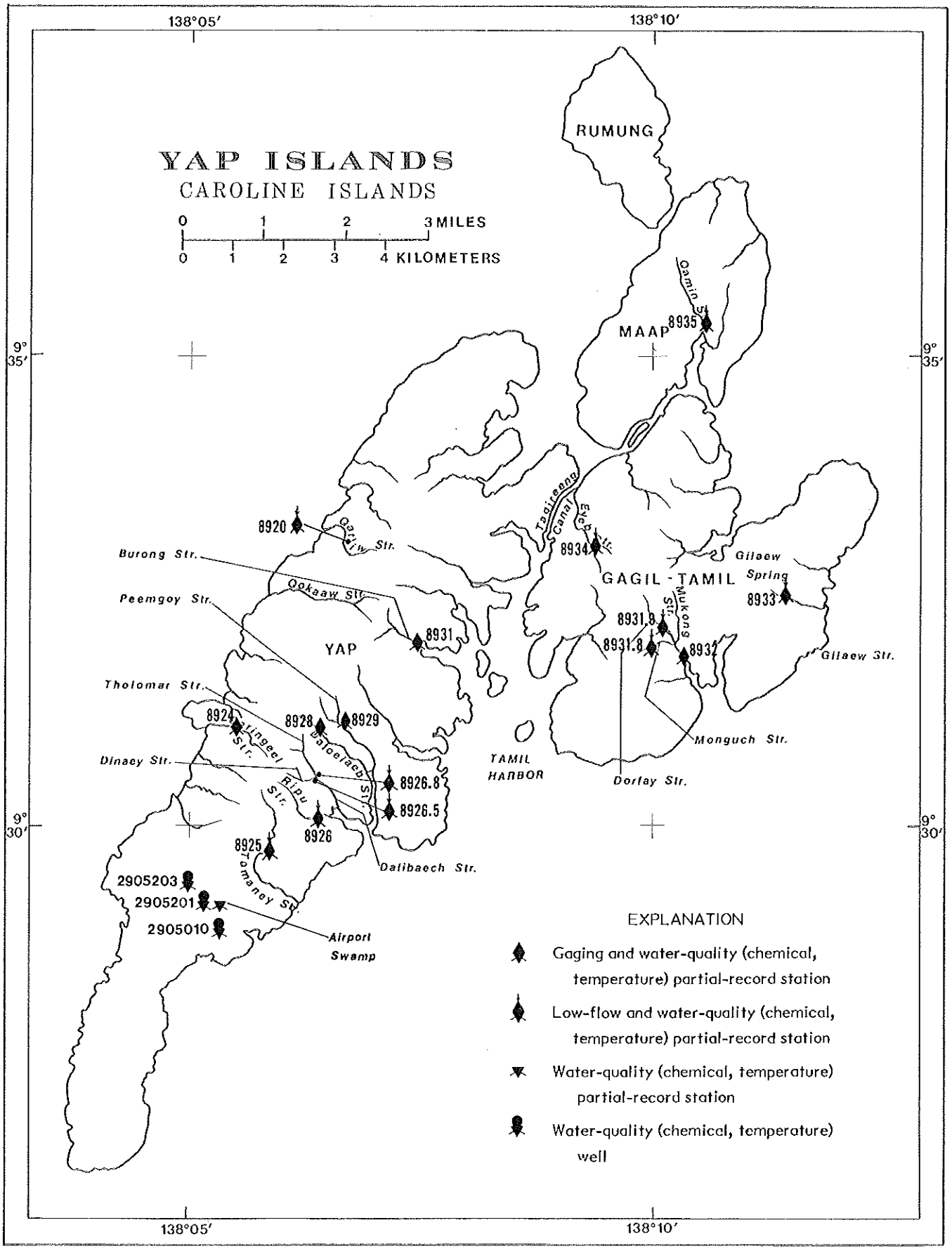


FIGURE 10.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON YAP ISLANDS.

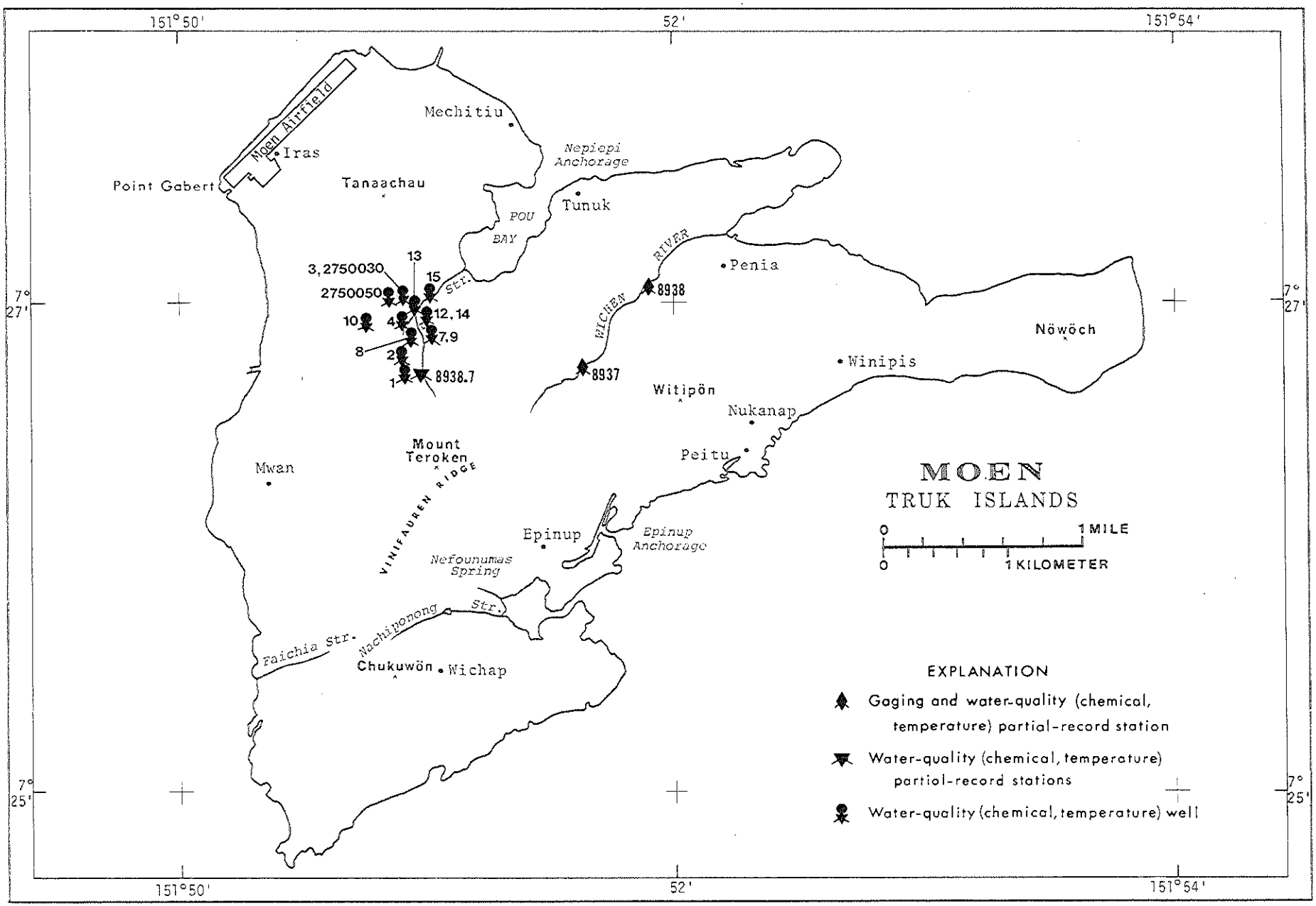


FIGURE 11.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON MOEN.

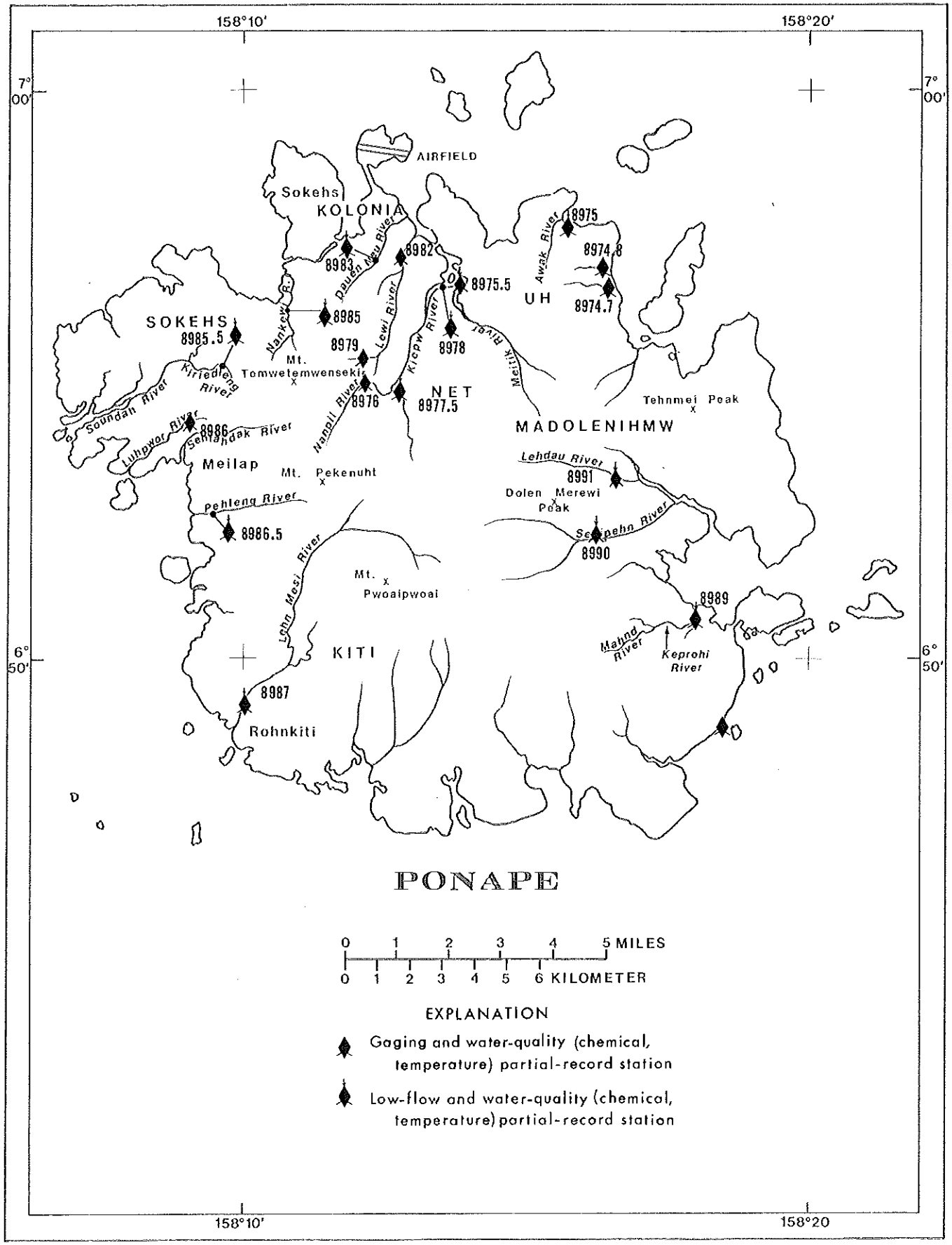


FIGURE 12.--LOCATIONS OF GAGING, LOW-FLOW AND WATER QUALITY PARTIAL-RECORD STATIONS ON PONAPE.

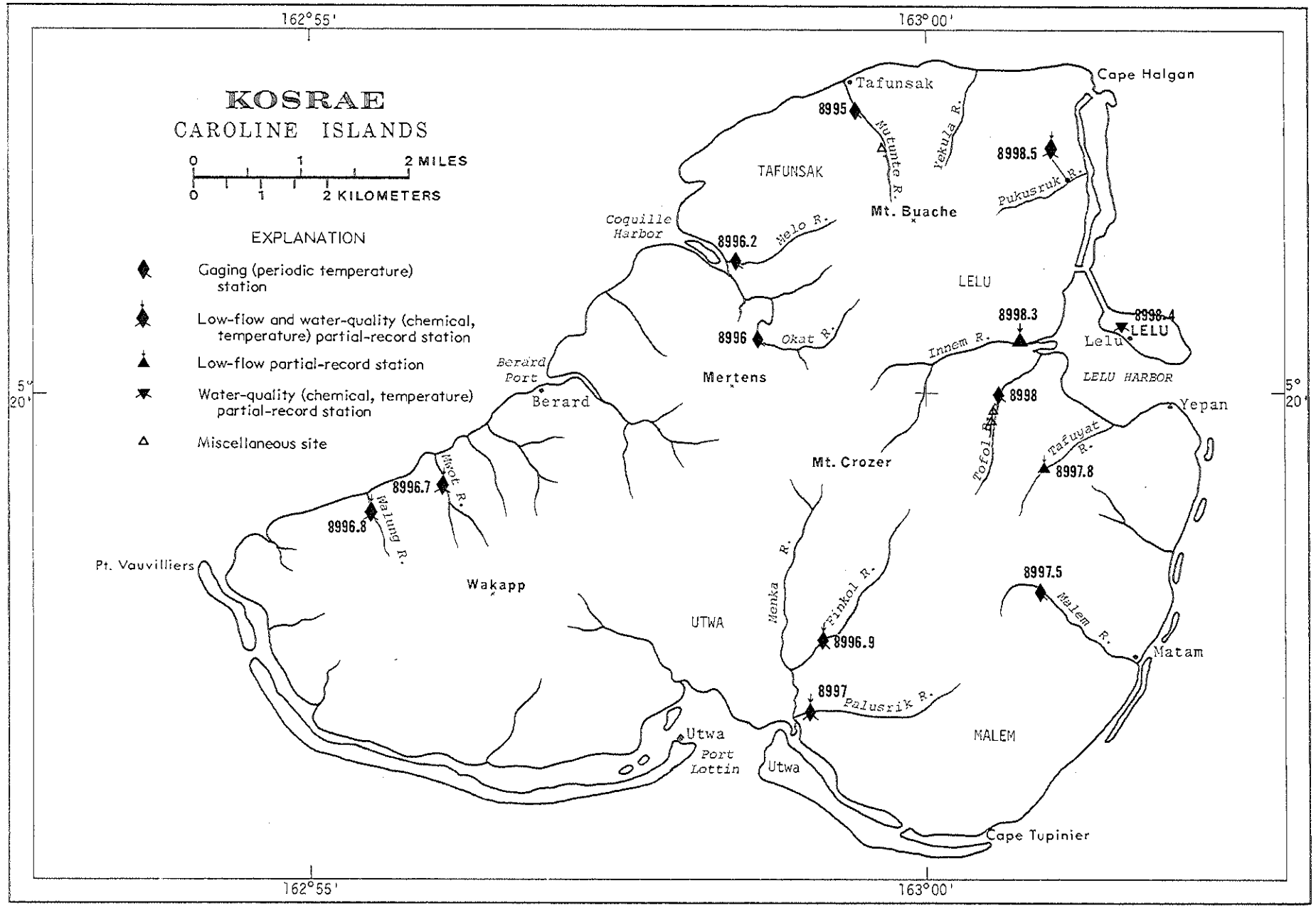


FIGURE 13.--LOCATIONS OF GAGING, LOW-FLOW AND WATER-QUALITY PARTIAL-RECORD STATIONS ON KOSRAE.

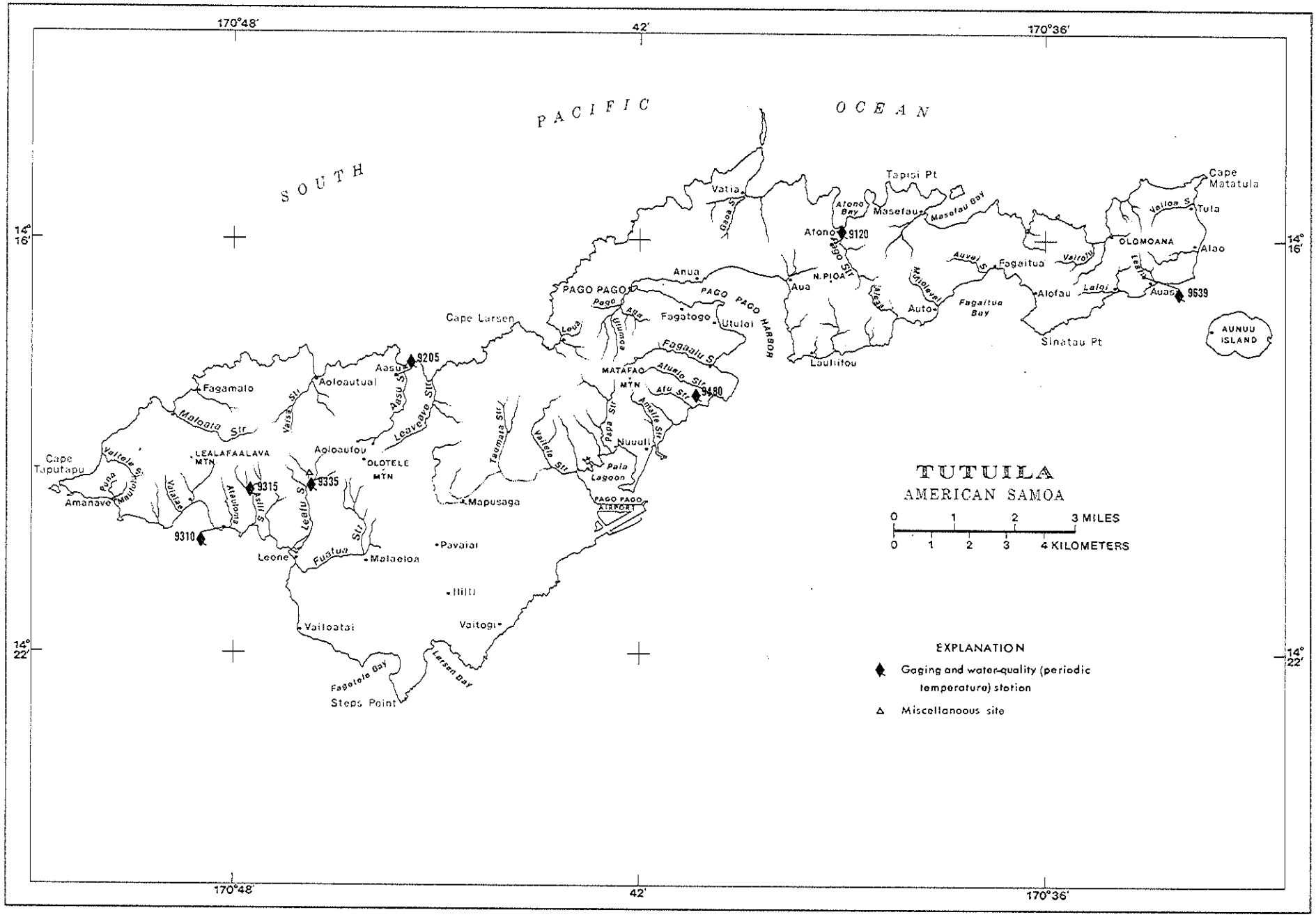


FIGURE 14.--LOCATIONS OF GAGING, AND WATER-QUALITY STATIONS ON TUTUILA, SAMOA ISLANDS.

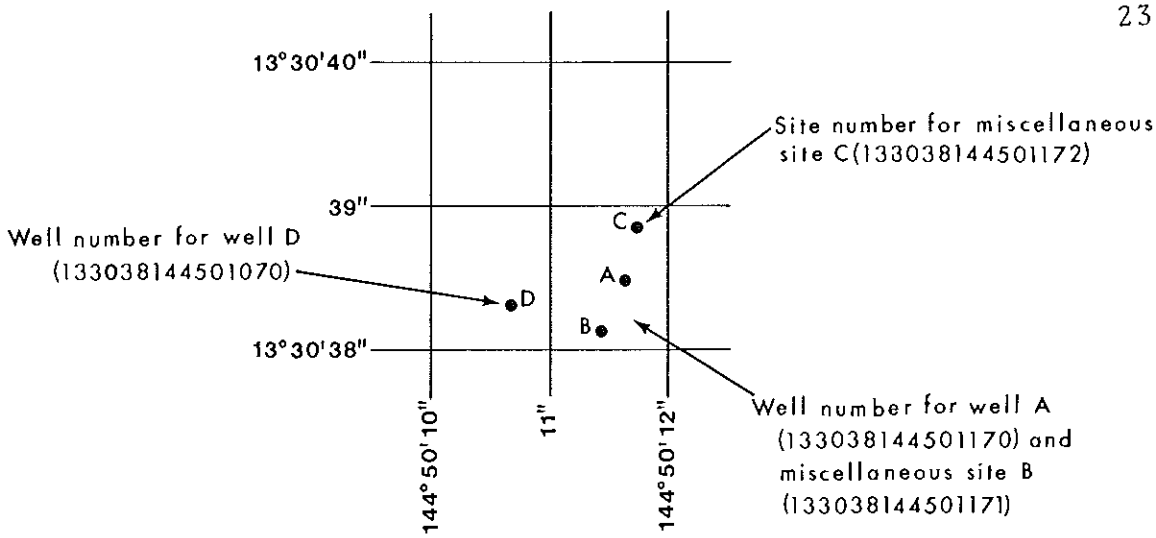


Figure 15. Sketch showing system for numbering wells and miscellaneous sites.

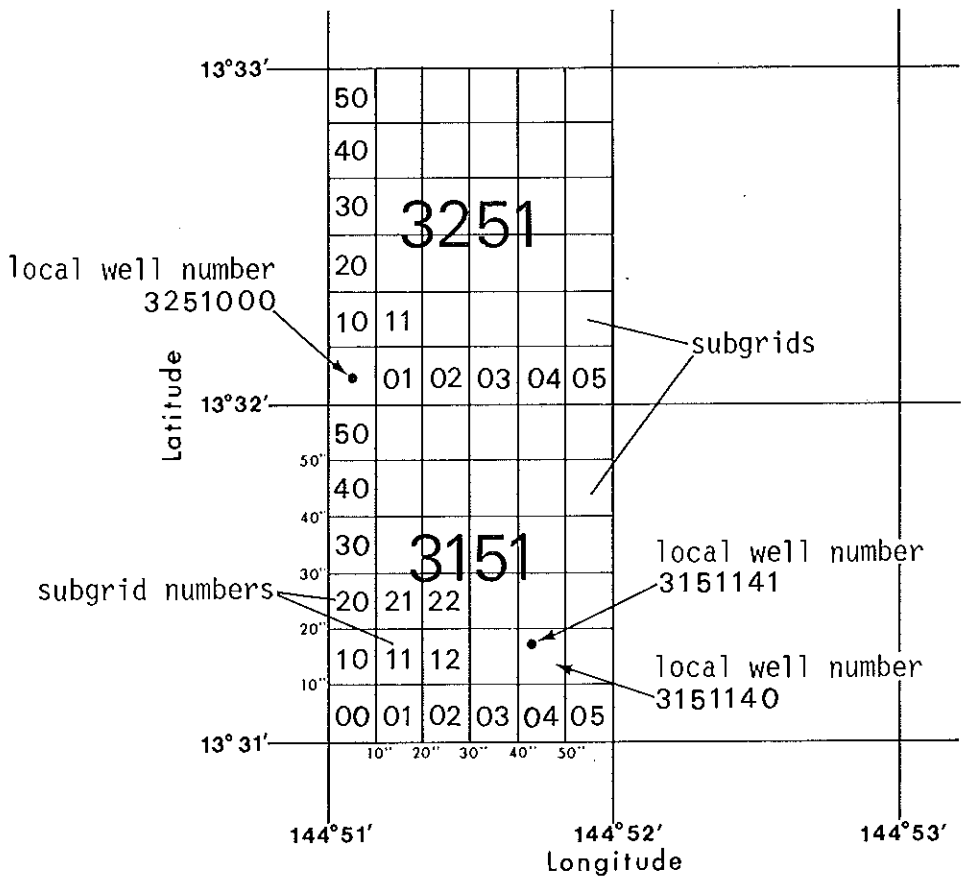


Figure 16. Sketch showing local well numbering system.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the bases of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations, in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figures was first published is given.

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE", it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Records of discharge collected by agencies other than the Geological Survey

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, Va 22092, maintains an index of water-data sites not published by the Geological Survey. Information on records available at specific sites can be obtained upon request.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Publications

In each water-supply paper entitled, "Surface Water Supply of the United States" there is a list of numbers of preceding water-supply papers containing streamflow information for the area covered by that report. In addition, there is a list of numbers of water-supply papers containing detailed information on major floods in the area. Records for stations in Hawaii and other Pacific areas for the period October 1959 to September 1965, are in Water-Supply Paper 1937.

Two series of summary reports entitled, "Compilation of Records of Surface Waters of the United States" have been published; the first series covers the entire period of record through September 1950 (June 1950, for Hawaii), and the second series covers the period October 1950 to September 1960 (July 1950 to June 1960, for Hawaii and other Pacific areas). These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station. Records for stations in Hawaii and other Pacific areas are compiled in Water-Supply Paper 1319 through June 1950, in 1739 and 1751 for July 1950 to June 1960, in 1937 for October 1959 to September 1965, and 2137 for October 1966 to September 1970.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The water-quality records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives periods of record for the various types of water-quality data (chemical, specific conductance, biological determination, water temperatures, sediment discharge), period of record, and extremes of pertinent data, and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water-quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publications

The annual series of water-supply papers that contain information on quality of surface waters in Hawaii and other Pacific areas are listed below.

Water year	WSP No.	Water year	WSP No.	Water year	WSP No.
1964	1966	1967	2016	1970	2160
1965	1966	1968	2016		
1966	1996	1969	2150		

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figures 15 and 16.

Measurements are made in many types of wells, under varying conditions of access and at temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported either for every fifth day and the end of each month (eom) or for each day. To show the intra-day variation in the ground-water levels caused by local pumping and tidal fluctuations, instantaneous maximum and minimum water levels are given with the mean water levels for the day.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature--influential factors, field measurement, and data presentation,* by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents,* by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations,* by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-E1. *Application of borehole geophysics to water-resources investigations,* by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

3-A1. *General field and office procedures for indirect discharge measurements,* by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams,* by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A11. *Measurement of discharge by moving-boat method,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-C1. *Fluvial sediment concepts,* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment,* by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells,* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for analysis of organic substances in water,* by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-C1. *Laboratory theory and methods for sediment analysis,* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water,* by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

8-A1. *Methods of measuring water levels in deep wells,* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

GAGING-STATION RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

16800000 DENNI SPRING

LOCATION.--Lat 15°11'57" N., long 145°46'05" E., Hydrologic Unit 20100006, 2.8 mi (4.5 km) southeast of Tanapag, 3.1 mi (5.0 km) east of Garapan, and 5.6 mi (9.0 km) northeast of Chalan Kanoa.

PERIOD OF RECORD.--August 1952 to June 1954 (published as Donni Spring near Garapan), March 1968, January 1969 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 261 ft (79.6 m) from U.S. Navy.

REMARKS.--Records fair except those above 2 ft^3/s (0.057 m^3/s) and those for Dec. 17 to Jan. 28 and Mar. 21 to May 23, which are poor.

AVERAGE DISCHARGE.--13 years (water years, 1953, 1970-81), 0.639 ft^3/s (0.018 m^3/s), 463 acre-ft/yr (571,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8.5 ft^3/s (0.24 m^3/s) Aug. 13, 1978; minimum daily, 0.02 ft^3/s (0.001 m^3/s) Sept. 16, 17, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 7.0 ft^3/s (0.20 m^3/s) Aug. 18-21; minimum daily, 0.22 ft^3/s (0.006 m^3/s) July 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	.91	1.4	.95	.74	.66	.50	.40	.39	.25	1.2	3.5
2	1.8	.91	1.4	.95	.74	.66	.50	.40	.39	.25	1.5	3.5
3	1.8	.86	1.4	.90	.74	.66	.50	.40	.39	.25	1.6	2.0
4	1.6	.86	1.3	.90	.74	.66	.50	.40	.39	.25	1.6	1.8
5	1.6	.86	1.2	.90	.74	.66	.50	.40	.39	.25	1.6	1.8
6	1.5	.86	1.2	.90	.74	.66	.45	.45	.39	.25	1.5	1.6
7	1.5	.82	1.1	.90	.70	.62	.45	.45	.39	.25	1.5	1.6
8	1.8	.82	1.0	.85	.70	.62	.45	.45	.35	.22	1.5	1.5
9	2.0	.82	.97	.85	.66	.62	.45	.45	.35	.22	1.4	1.4
10	2.0	.78	.97	.85	.66	.62	.50	.50	.35	.25	1.4	1.3
11	2.0	.78	.91	.85	.66	.62	.50	.50	.35	.25	1.4	1.2
12	1.8	.78	.91	.85	.66	.62	.50	.45	.31	.25	1.4	1.2
13	1.8	.74	.91	.85	.70	.58	.50	.45	.31	.28	1.4	1.0
14	1.8	.78	.91	.85	.70	.58	.50	.45	.31	.28	1.6	1.0
15	1.6	.78	.91	.85	.70	.58	.50	.45	.31	.28	4.5	1.0
16	1.5	.78	.86	.85	.70	.58	.50	.45	.31	.28	5.5	1.0
17	1.4	.78	.85	.80	.70	.58	.50	.45	.31	.28	5.5	.98
18	1.4	.74	.85	.80	.70	.58	.50	.45	.31	.28	7.0	.98
19	1.3	.82	.85	.80	.70	.58	.55	.45	.31	.31	7.0	.98
20	1.3	.82	.80	.80	.70	.58	.55	.45	.31	.35	7.0	.98
21	1.2	.86	.90	.80	.70	.55	.55	.43	.28	.31	7.0	.98
22	1.2	.86	1.0	.80	.70	.55	.50	.43	.28	.31	5.5	.98
23	1.2	1.1	1.0	.80	.66	.55	.50	.43	.28	.31	5.5	.92
24	1.2	1.5	1.0	.80	.66	.55	.45	.43	.28	.28	4.5	.92
25	1.1	1.6	1.0	.75	.66	.55	.45	.43	.25	.28	3.5	.92
26	1.0	1.6	1.0	.75	.66	.55	.45	.43	.25	.28	4.5	.87
27	1.0	1.6	1.0	.75	.66	.55	.45	.43	.25	.28	5.5	1.0
28	1.0	1.6	.95	.75	.66	.50	.45	.39	.25	.28	4.5	1.1
29	.97	1.5	.95	.74	---	.50	.45	.39	.25	.28	4.5	1.1
30	.97	1.5	.95	.74	---	.50	.45	.39	.25	.35	3.5	1.0
31	.91	---	.95	.74	---	.50	---	.39	---	.75	3.5	---
TOTAL	44.85	30.02	31.40	25.67	19.44	18.17	14.60	13.42	9.54	8.99	109.1	40.11
MEAN	1.45	1.00	1.01	.83	.69	.59	.49	.43	.32	.29	3.52	1.34
MAX	2.0	1.6	1.4	.95	.74	.66	.55	.50	.39	.75	7.0	3.5
MIN	.91	.74	.85	.74	.66	.50	.45	.39	.25	.22	1.2	.87
AC-FT	89	60	62	51	39	36	29	27	19	18	216	80

CAL YR 1980	TOTAL	217.88	MEAN	.60	MAX	3.5	MIN	.12	AC-FT	432
WTR YR 1981	TOTAL	365.31	MEAN	1.00	MAX	7.0	MIN	.22	AC-FT	725

MARIANA ISLANDS, ISLAND OF SAIPAN

16801000 SOUTH FORK TALOFOFO STREAM

LOCATION.--Lat 15°12'58" N., long 145°46'31" E., Hydrologic Unit 20100006, on left bank 0.3 mi (0.5 km) upstream from confluence with Middle and North Forks, 1.4 mi (2.3 km) south of Ogso Dogas, and 2.2 mi (3.5 km) southeast of Tanapag.

DRAINAGE AREA.--0.69 mi² (1.79 km²). Area at site used prior to Mar. 31, 1971, 0.73 mi² (1.89 km²).

PERIOD OF RECORD.--October 1968 to current year. Low-flow records not equivalent prior to Mar. 31, 1971, due to undetermined amount of underflow between sites.

REVISED RECORDS.--WDR HI-78-2: 1976-77(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 31, 1971. Altitude of gage is 30 ft (9.1 m), from topographic map. Prior to Mar. 31, 1971, at site 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 1.46 ft³/s (0.041 m³/s), 1,060 acre-ft/yr (1.31 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,100 ft³/s (116 m³/s), Aug. 4, 1976, gage height, 8.15 ft (2.484 m), from rating curve extended above 59 ft³/s (1.67 m³/s) on basis of slope-area measurements at gage heights 7.30 and 8.15 ft (2.225 and 2.484 m); no flow at times prior to Mar. 31, 1971, at site then in use, and at present site, July 16, 17, 19, 20, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 23	0530	*1940	54.9	*6.65	2.027
Aug. 1	0730	472	13.4	4.68	1.426
Aug. 16	1000	408	11.6	4.52	1.378

Minimum discharge, 0.01 ft³/s (<0.001 m³/s) May 30, June 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	1.1	1.4	.80	.35	.22	.11	.06	.03	.04	42	2.0
2	3.1	1.6	1.1	.75	.40	.22	.11	.05	.03	.14	11	1.8
3	4.5	1.1	1.1	.75	.35	.20	.12	.05	.03	.08	3.0	1.7
4	3.0	1.1	1.1	.80	.35	.22	.11	.07	.03	.07	1.5	1.6
5	2.3	1.5	.94	.70	.30	.20	.10	.08	.03	.06	1.5	1.3
6	2.1	1.1	.88	.70	.30	.20	.10	.10	.03	.10	1.0	1.2
7	13	1.0	.76	.65	.30	.16	.06	.10	.03	.06	1.0	1.2
8	17	1.0	.70	.65	.45	.16	.06	.08	.03	.04	.80	1.2
9	4.8	.88	.70	.60	.45	.18	.06	.11	.02	.04	5.0	1.1
10	3.4	.82	.70	.60	.35	.18	.12	.29	.02	.04	3.0	1.0
11	2.7	.82	.66	.55	.30	.20	.11	.10	.02	.05	1.5	1.0
12	2.2	.82	.62	.55	.30	.16	.08	.06	.03	.08	4.0	1.0
13	1.7	.70	.62	.50	.28	.16	.07	.05	.04	.08	18	1.0
14	1.5	.66	.76	.55	.28	.14	.07	.05	.03	.27	25	1.1
15	1.4	1.0	.58	.55	.25	.14	.07	.04	.10	.08	17	.94
16	1.3	1.0	.58	.50	.24	.14	.06	.04	.05	.06	32	1.0
17	1.2	.76	.54	.50	.24	.14	.06	.04	.04	.08	17	5.9
18	1.2	1.3	.50	.45	.23	.14	.15	.04	.03	.12	10	1.6
19	1.4	2.9	.50	.45	.23	.12	.34	.04	.02	.17	2.5	1.2
20	1.2	2.5	.50	.50	.22	.12	.11	.04	.04	1.6	2.5	1.1
21	1.2	1.5	1.8	.55	.24	.12	.10	.04	.03	.18	2.2	.94
22	1.1	1.4	3.6	.45	.22	.12	.10	.04	.02	.10	1.5	.94
23	1.1	119	6.0	.55	.22	.14	.08	.04	.04	.12	1.0	.88
24	1.4	4.1	1.5	.45	.20	.14	.08	.04	.03	.14	1.0	.82
25	1.1	2.4	1.1	.45	.20	.12	.08	.04	.03	.14	15	1.3
26	1.1	1.9	1.1	.45	.20	.12	.07	.04	.04	.12	25	9.2
27	.94	1.7	1.0	.40	.20	.12	.06	.04	.04	.10	6.5	3.3
28	.88	1.5	.90	.40	.24	.12	.06	.04	.03	.10	4.4	1.8
29	.88	1.3	.85	.40	---	.12	.06	.04	.03	.29	3.2	1.5
30	.88	1.2	.85	.35	---	.11	.06	.04	.03	14	2.7	1.2
31	1.5	---	.90	.35	---	.11	---	.04	---	23	2.2	---
TOTAL	86.88	159.66	34.84	16.90	7.89	4.74	2.82	1.93	1.00	41.55	264.00	51.82
MEAN	2.80	5.32	1.12	.55	.28	.15	.094	.062	.033	1.34	8.52	1.73
MAX	17	119	6.0	.80	.45	.22	.34	.29	.10	23	42	9.2
MIN	.88	.66	.50	.35	.20	.11	.06	.04	.02	.04	.80	.82
AC-FT	172	317	69	34	16	9.4	5.6	3.8	2.0	82	524	103

CAL YR 1980 TOTAL 565.65 MEAN 1.55 MAX 119 MIN .03 AC-FT 1120
WTR YR 1981 TOTAL 674.03 MEAN 1.85 MAX 119 MIN .02 AC-FT 1340

NOTE.--No gage-height record Dec. 27 to Feb. 19.

MARIANA ISLANDS, ISLAND OF SAIPAN

16801500 MIDDLE FORK TALOFOFO STREAM

LOCATION.--Lat 15°13'05" N., long 145°46'36" E., Hydrologic Unit 20100006, on left bank 700 ft (213 m) upstream from confluence with South and North Forks, 2.2 mi (3.5 km) southeast of Tanapag, and 3.7 mi (6.0 km) east of Garapan.

DRAINAGE AREA.--0.35 mi^2 (0.91 km^2).

PERIOD OF RECORD.--March 1968 to June 1980, February to September 1981.

REVISED RECORDS.--WDR HI-76-1: 1968-69(P), 1970-71(M), 1972(P), 1973-75(M).

GAGE.--Water-stage recorder. Concrete control since Feb. 28, 1971. Altitude of gage is 25 ft (7.6 m), from topographic map.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 0.682 ft^3/s (0.019 m^3/s), 494 acre-ft/yr (609,000 m^3/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 840 ft^3/s (23.8 m^3/s) Aug. 12, 1978, gage height, 6.58 ft (2.006 m), from rating curve extended above 5.3 ft^3/s (0.150 m^3/s) on basis of slope-area measurements at gage heights 5.38 ft (1.640 m) and 6.58 ft (2.006 m); minimum, 0.05 ft^3/s (0.001 m^3/s) July 5, 6, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges during period February to September, above base of 100 ft^3/s (2.83 m^3/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 31	2030	141	3.99	3.87	1.180
Aug. 1	0730	*176	4.98	*4.10	1.250
Aug. 16	a1000	152	4.30	3.95	1.204

Minimum discharge, 0.09 ft^3/s (0.003 m^3/s) June 22-26.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					.41	.21	.21	.18	.14	.18	14	1.1
2					.45	.24	.21	.18	.16	.33	4.1	1.0
3					.41	.24	.27	.18	.16	.18	1.4	.96
4					.41	.30	.21	.18	.18	.16	.84	.96
5					.33	.27	.18	.21	.18	.18	.78	.84
6					.33	.24	.18	.21	.18	.18	.55	.78
7					.33	.24	.21	.21	.18	.16	.45	.72
8					.50	.21	.24	.21	.21	.21	.45	.72
9					.50	.21	.21	.24	.21	.24	2.5	.66
10					.41	.21	.33	.68	.18	.24	1.5	.60
11					.37	.27	.37	.27	.16	.24	.90	.60
12					.37	.21	.24	.21	.16	.33	2.0	.60
13					.33	.27	.21	.21	.14	.27	9.0	.66
14					.33	.24	.27	.21	.14	.33	12	.84
15					.30	.24	.24	.18	.30	.18	9.0	.60
16					.27	.21	.21	.18	.16	.18	15	1.1
17					.27	.21	.24	.18	.16	.21	9.0	4.0
18					.27	.24	.41	.16	.14	.27	5.0	1.5
19					.27	.24	.50	.16	.13	.30	1.5	.96
20					.30	.21	.33	.18	.13	1.1	1.3	.78
21					.30	.21	.27	.17	.11	.30	1.0	.66
22					.27	.24	.27	.18	.11	.24	.80	.60
23					.27	.24	.24	.18	.13	.30	.60	.55
24					.24	.24	.21	.18	.11	.37	.60	.60
25					.24	.24	.21	.18	.11	.33	7.5	.84
26					.24	.24	.21	.18	.11	.27	12	3.7
27					.24	.24	.18	.16	.13	.24	2.0	2.1
28					.33	.21	.18	.16	.13	.24	1.3	1.1
29					---	.18	.18	.14	.14	.41	1.1	.90
30					---	.21	.21	.14	.14	3.3	1.1	.78
31					---	.21	---	.14	---	7.4	1.1	---
TOTAL					9.29	7.17	7.43	6.23	4.62	18.87	120.37	31.81
MEAN					.33	.23	.25	.20	.15	.61	3.88	1.06
MAX					.50	.30	.50	.68	.30	7.4	15	4.0
MIN					.24	.18	.18	.14	.11	.16	.45	.55
AC-FT					18	14	15	12	9.2	37	239	63

MARIANA ISLANDS, ISLAND OF SAIPAN

16805200 LAKE SUSUPE

LOCATION.--Lat 15°09'15" N., long 145°42'42" E., Hydrologic Unit 20100006, on west shore, at the end of Sugar Mill Road, 0.5 mi (0.8 km) southeast from the Administration building, Northern Marianas Governnment.

PERIOD OF RECORD.--February to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 1.30 ft (0.396 m), above mean sea level.

REMARKS.--Gage-height records good. Periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 4.39 ft (1.338 m), Aug. 17; minimum, 1.18 ft (0.360 m), June 12, 13.

GAGE HEIGHT (FEET ABOVE DATUM), FEBRUARY TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					2.18	1.88	1.54	1.47	1.21	1.26	3.36	3.55
2					2.18	1.88	1.53	1.46	1.21	1.26	3.51	3.45
3					2.16	1.88	1.52	1.45	1.20	1.26	3.50	3.38
4					2.14	1.89	1.52	1.44	1.22	1.26	3.46	3.28
5					2.13	1.89	1.50	1.43	1.21	1.25	3.44	3.17
6					2.10	1.87	1.49	1.43	1.21	1.25	3.38	3.09
7					2.09	1.86	1.48	1.42	1.21	1.25	3.30	3.01
8					2.10	1.84	1.47	1.41	1.21	1.29	3.22	2.93
9					2.15	1.82	1.47	1.41	1.21	1.29	3.16	2.87
10					2.17	1.81	1.47	1.42	1.21	1.29	3.13	2.81
11					2.16	1.83	1.48	1.43	1.21	1.30	3.06	2.75
12					2.14	1.83	1.48	1.43	1.20	1.34	3.02	2.71
13					2.12	1.81	1.48	1.43	1.20	1.41	3.16	2.67
14					2.10	1.80	1.47	1.42	1.20	1.47	3.77	2.67
15					2.09	1.77	1.47	1.41	1.22	1.52	3.94	2.67
16					2.07	1.76	1.46	1.40	1.25	1.54	4.15	2.66
17					2.05	1.75	1.45	1.39	1.27	1.55	4.37	2.70
18					2.03	1.74	1.46	1.37	1.28	1.59	4.36	2.76
19					2.02	1.72	1.54	1.36	1.28	1.64	4.26	2.72
20					1.99	1.69	1.57	1.35	1.28	1.69	4.16	2.68
21					1.97	1.67	1.58	1.33	1.28	1.72	4.05	2.66
22					1.95	1.65	1.60	1.30	1.28	1.74	3.94	2.64
23					1.93	1.65	1.59	1.28	1.27	1.75	3.83	2.62
24					1.91	1.65	1.58	1.28	1.27	1.77	3.72	2.62
25					1.89	1.63	1.56	1.27	1.26	1.81	3.70	2.66
26					1.87	1.61	1.55	1.26	1.25	1.85	4.02	2.70
27					1.85	1.60	1.52	1.24	1.24	1.89	4.05	2.77
28					1.84	1.60	1.50	1.24	1.23	1.91	4.02	2.74
29					---	1.58	1.49	1.23	1.25	1.99	3.93	2.72
30					---	1.57	1.48	1.22	1.26	2.30	3.80	2.71
31					---	1.55	---	1.22	---	2.73	3.66	---
MEAN					2.05	1.74	1.51	1.36	1.24	1.59	3.69	2.85
MAX					2.18	1.89	1.60	1.47	1.28	2.73	4.37	3.55
MIN					1.84	1.55	1.45	1.22	1.20	1.25	3.02	2.62

MARIANA ISLANDS, ISLAND OF GUAM

16808300 FINILE CREEK AT AGAT

LOCATION.--Lat 13°22'39" N., long 144°39'26" E., Hydrologic Unit 20100003, on right bank 0.4 mi (0.6 km) upstream from estuary and 0.4 mi (0.6 km) south of Agat School.

DRAINAGE AREA.--0.28 mi^2 (0.73 km^2).

PERIOD OF RECORD.--April 1960 to current year. Prior to October 1969, published as Finile River at Agat.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--21 years, 1.42 ft^3/s (0.040 m^3/s), 1,030 acre-ft/yr (1.27 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 326 ft^3/s (9.23 m^3/s) May 21, 1976, gage height, 3.88 ft (1.183 m), from rating curve extended above 68 ft^3/s (1.93 m^3/s) on basis of slope-area measurement at gage height 3.66 ft (1.116 m); minimum, 0.04 ft^3/s (0.001 m^3/s) July 2-4, 6, 8, 9, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 169 ft^3/s (4.79 m^3/s) Aug. 9, gage height, 2.42 ft (0.738 m), no peak above base of 170 ft^3/s (4.81 m^3/s); minimum, 0.12 ft^3/s (0.003 m^3/s) Apr. 14-17, June 8, 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	2.2	1.3	.92	.81	.32	.32	.22	.22	.32	4.3	2.0
2	7.9	1.9	1.1	.81	.70	.32	.27	.22	.18	.51	2.0	2.0
3	4.2	1.8	1.1	.81	.70	.32	.22	.22	.18	.37	1.5	1.7
4	3.6	1.8	1.1	.81	.70	.32	.22	.22	.18	.32	1.2	1.7
5	3.0	1.7	1.0	.81	.70	.32	.22	.22	.18	.32	1.0	1.7
6	3.4	1.6	1.0	.81	.70	.27	.18	.18	.18	.32	.90	1.5
7	4.7	1.7	1.0	.81	.60	.27	.18	.18	.18	.27	.85	1.5
8	4.5	1.6	1.0	.70	.60	.32	.18	.37	.15	.27	1.3	1.3
9	2.8	1.5	.92	.70	.60	.32	.18	3.0	.18	.21	10	1.5
10	2.5	1.7	1.0	.60	.60	.32	.18	.43	.18	1.0	4.5	1.3
11	2.3	1.5	.92	.81	.60	.32	.15	.60	.27	.70	2.0	1.2
12	4.1	1.4	.81	.70	.60	.37	.15	1.5	.27	1.8	6.0	1.2
13	2.1	1.3	.81	.70	.60	.32	.15	2.4	.18	.70	3.0	1.1
14	2.1	1.3	.81	.60	.60	.32	.15	.70	.18	1.3	6.0	1.5
15	2.0	2.0	.81	.60	.51	.27	.12	.43	.43	.60	10	1.4
16	1.9	1.9	.81	.51	.51	.27	.12	.37	.27	.43	15	1.3
17	1.8	1.3	2.4	.51	.51	.27	.18	.32	.18	.37	5.0	1.3
18	2.1	1.4	1.3	.51	.60	.27	1.6	.27	.27	.37	2.5	1.4
19	1.9	1.3	1.0	.51	.51	.27	.43	.27	.22	1.5	1.8	1.2
20	2.2	1.3	1.1	.60	.51	.27	.37	.27	.18	.60	1.5	.98
21	1.7	1.3	1.0	.51	.43	.27	.32	.27	.18	.43	1.8	.94
22	1.6	1.5	1.0	.51	.43	.27	.32	.22	.18	.37	2.0	.93
23	1.9	2.2	.92	.43	.37	.27	.32	.22	.15	.32	1.5	.99
24	1.6	1.5	.81	.43	.37	.22	.27	.22	.15	.70	1.2	.99
25	3.1	1.3	.81	.43	.37	.22	.27	.22	.15	3.3	1.5	2.0
26	2.0	1.1	.81	.51	.37	.22	.27	.18	.32	.57	5.0	3.4
27	1.8	1.1	4.9	.43	.37	.43	.22	.18	2.2	.45	4.0	5.6
28	1.6	1.1	2.1	.70	.37	.32	.22	.18	.37	.43	3.0	1.5
29	1.5	1.6	1.0	1.4	---	.27	.27	.18	.43	.77	2.5	1.3
30	1.6	1.6	1.0	2.0	---	.22	.22	.18	.32	9.3	2.5	1.2
31	9.3	---	.92	.92	---	.27	---	.18	---	3.1	2.0	---
TOTAL	97.8	46.5	36.56	22.10	15.34	9.03	8.27	14.62	8.71	32.02	107.35	47.63
MEAN	3.15	1.55	1.18	.71	.55	.29	.28	.47	.29	1.03	3.46	1.59
MAX	11	2.2	4.9	2.0	.81	.43	1.6	3.0	2.2	9.3	15	5.6
MIN	1.5	1.1	.81	.43	.37	.22	.12	.18	.15	.21	.85	.93
AC-FT	194	92	73	44	30	18	16	29	17	64	213	94

CAL YR 1980 TOTAL 538.15 MEAN 1.47 MAX 35 MIN .37 AC-FT 1070
WTR YR 1981 TOTAL 445.93 MEAN 1.22 MAX 15 MIN .12 AC-FT 885

NOTE.--No gage-height record Aug. 10 to Sept. 12.

MARIANA ISLANDS, ISLAND OF GUAM

16809600 LA SA FUA RIVER NEAR UMATAC

LOCATION.--Lat 13°18'23" N., long 144°39'45" E., Hydrologic Unit 20100003, on left bank 0.6 mi (1.0 km) north of Sanchez School in Umatac and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--1.06 mi² (2.75 km²).

PERIOD OF RECORD.--April 1953 to July 1960, October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 120 ft (36.6 m), from topographic map.

REMARKS.--Records good. Water is diverted through 2-in (5.1-cm) pipe at coast highway above station for consumption in nearby homes.

AVERAGE DISCHARGE.--11 years (water years 1954-59, 1977-81), 4.45 ft³/s (0.126 m³/s), 3,220 acre-ft/yr (3.97 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) Sept. 27, 1978, gage height, 6.05 ft (1.844 m), from rating curve extended above 109 ft³/s (3.09 m³/s) by test on model of station site; minimum, 0.12 ft³/s (0.003 m³/s) June 13, 1979, during short regulation of flow at diversion upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 1	0200	646	18.3	4.69	1.430	Aug. 15	2045	600	17.0	4.57	1.393
Oct. 31	0645	558	15.8	4.45	1.356	Aug. 19	2345	575	16.3	4.50	1.372
Aug. 9	1215	*820	23.2	*5.08	1.548	Sept. 18	1630	726	20.6	4.89	1.490
Aug. 12	2230	522	14.8	4.35	1.326						

Minimum discharge, 0.42 ft³/s (0.012 m³/s) June 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	3.9	3.1	1.4	2.6	.90	.93	.60	.55	1.4	15	2.1
2	20	2.8	2.6	1.3	1.9	.91	.70	.61	.55	1.0	14	1.8
3	19	2.3	2.2	1.2	2.1	.79	.61	.56	.45	1.1	26	1.7
4	21	2.2	2.0	1.1	1.6	.74	.58	.65	.51	4.1	6.0	2.4
5	7.0	2.1	2.2	1.1	1.4	.77	.55	.62	.43	1.8	3.9	1.7
6	6.8	1.9	1.8	1.1	1.3	.74	.55	.54	.51	1.2	2.9	1.6
7	21	4.9	1.8	1.1	1.2	.75	.52	.61	.47	.99	2.4	1.5
8	27	2.1	1.6	1.1	1.2	.81	.52	.89	.45	3.8	2.2	1.5
9	6.5	1.9	1.5	1.0	1.2	1.2	.52	1.3	.64	1.9	77	1.5
10	5.0	1.8	1.5	1.0	1.1	.86	.55	.65	.53	16	23	1.4
11	3.7	2.8	1.4	.97	1.0	.73	.48	.97	.56	12	6.5	1.4
12	4.3	2.6	1.4	1.0	1.0	.82	.48	.96	.77	18	51	1.3
13	3.0	2.5	1.4	1.1	1.0	.97	.47	8.1	.55	7.3	23	1.7
14	3.0	2.3	1.3	.98	.95	.75	.47	2.5	.55	14	17	3.9
15	2.7	3.5	1.3	.94	.91	.66	.47	1.4	1.5	5.0	86	1.4
16	3.0	7.6	1.4	.88	.92	.65	.47	1.1	1.4	2.9	55	1.3
17	3.8	2.5	3.6	1.0	.91	.64	.58	.91	.78	2.8	22	5.0
18	2.6	2.6	3.3	.91	3.4	.63	18	.78	.77	2.4	9.3	39
19	6.3	2.4	1.6	.87	1.1	.59	4.0	.72	.64	11	19	3.8
20	3.6	2.2	1.9	.93	.94	.57	1.9	.69	.66	4.5	18	2.0
21	2.6	2.0	3.2	.96	.89	.57	1.1	.69	.80	3.0	6.8	4.7
22	2.2	2.5	1.7	.97	.88	.57	.79	.66	.49	2.2	4.4	1.7
23	2.0	11	1.4	1.8	.88	.58	.70	.64	.52	1.9	3.4	2.2
24	1.9	2.2	1.2	.92	1.0	.60	.61	.63	.46	2.8	2.8	3.6
25	1.9	2.1	1.1	1.1	.81	.68	.64	.58	.47	12	2.5	13
26	3.4	1.9	1.1	1.3	.78	.62	.58	.56	.78	2.6	12	21
27	5.2	2.2	12	.90	.85	2.1	.64	.56	9.2	2.0	7.7	42
28	2.6	2.4	7.3	1.6	.85	.61	.61	.56	2.6	2.0	8.1	10
29	1.9	21	1.8	7.8	---	.64	1.3	.53	2.2	8.8	3.2	3.7
30	1.9	7.0	1.5	22	---	.58	.61	.53	1.3	41	2.4	2.8
31	76	---	1.4	9.3	---	.58	---	.51	---	12	2.1	---
TOTAL	326.9	111.2	72.6	69.63	34.67	23.61	40.93	31.61	32.09	203.49	534.6	182.7
MEAN	10.5	3.71	2.34	2.25	1.24	.76	1.36	1.02	1.07	6.56	17.2	6.09
MAX	76	21	12	22	3.4	2.1	18	8.1	9.2	41	86	42
MIN	1.9	1.8	1.1	.87	.78	.57	.47	.51	.43	.99	2.1	1.3
AC-FT	648	221	144	138	69	47	81	63	64	404	1060	362

CAL YR 1980 TOTAL 2737.47 MEAN 7.48 MAX 217 MIN .44 AC-FT 5430
WTR YR 1981 TOTAL 1664.03 MEAN 4.56 MAX 86 MIN .43 AC-FT 3300

MARIANA ISLANDS, ISLAND OF GUAM

16835000 INARAJAN RIVER NEAR INARAJAN

LOCATION.--Lat 13°16'41" N., long 144°44'15" E., Hydrologic Unit 20100003, on right bank 0.6 mi (1.0 km) northwest of Inarajan and 4.9 mi (7.9 km) east of Merizo.

DRAINAGE AREA.--4.42 mi^2 (11.45 km^2).

PERIOD OF RECORD.--September 1952 to current year.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Stage-discharge relation not determined above gage height 11.0 ft (3.35 m) owing to ungaged overbank flow. During dry periods water is diverted upstream for irrigation.

AVERAGE DISCHARGE.--29 years, 17.4 ft^3/s (0.492 m^3/s), 12,610 acre-ft/yr (15.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 12.90 ft (3.932 m) Oct. 11, 1963 (discharge not determined); minimum discharge, 0.42 ft^3/s (0.012 m^3/s) June 21, 22, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,730 ft^3/s (49.0 m^3/s) Aug. 12, gage height, 10.60 ft (3.231 m), no other peak above base of 1,700 ft^3/s (48.1 m^3/s); minimum, 1.4 ft^3/s (0.040 m^3/s), Apr. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	22	11	8.3	7.5	3.1	3.0	2.8	2.2	3.4	38	17
2	80	18	9.7	6.2	5.9	3.0	2.8	2.6	2.2	3.1	83	15
3	70	16	9.5	5.9	5.9	3.1	2.6	2.5	2.3	2.9	37	13
4	35	18	8.8	5.6	5.2	2.9	2.5	2.5	2.1	3.0	16	15
5	30	18	9.4	5.4	4.6	3.4	2.4	2.6	2.1	2.7	12	14
6	67	13	8.3	5.4	4.4	3.1	2.3	2.6	2.0	2.5	10	13
7	65	19	7.8	5.6	4.2	2.9	2.2	2.5	2.1	2.3	8.9	12
8	100	14	7.5	6.2	5.2	3.0	2.1	3.0	1.9	2.7	8.6	12
9	28	19	7.4	4.8	4.2	4.4	2.5	3.5	1.9	2.5	50	11
10	31	14	7.2	4.8	4.0	3.3	2.3	3.2	1.9	3.2	80	11
11	25	12	7.0	7.0	3.9	3.3	2.1	6.0	2.5	8.4	22	11
12	28	12	6.7	5.1	3.9	3.3	2.0	11	4.0	35	190	10
13	23	12	6.7	4.8	3.7	3.1	1.9	5.6	3.0	10	50	11
14	23	11	6.5	4.8	3.7	3.0	1.8	6.7	2.7	15	65	16
15	21	12	6.3	4.3	3.7	2.9	1.8	5.0	6.5	10	320	11
16	20	28	6.5	4.3	3.6	2.8	1.8	4.0	5.5	7.0	120	10
17	18	12	11	4.1	3.5	2.7	2.7	3.5	3.7	7.4	50	9.9
18	18	19	14	4.1	5.8	2.7	40	3.0	3.3	9.1	35	21
19	21	13	7.8	4.1	5.1	2.6	25	2.8	3.3	14	30	16
20	19	12	9.1	5.1	4.2	2.5	10	2.7	3.0	10	48	14
21	18	11	12	4.3	3.7	2.5	6.0	2.6	2.8	7.0	34	14
22	23	11	8.1	4.1	3.5	2.5	5.0	2.6	2.5	5.4	28	11
23	16	27	7.1	7.6	3.3	2.5	4.0	2.5	2.3	4.8	25	9.9
24	15	11	6.6	4.6	3.2	2.8	3.5	2.5	2.1	4.1	22	9.6
25	18	10	6.3	4.3	3.1	2.8	3.0	2.4	2.3	4.8	20	18
26	27	9.6	7.2	5.1	2.9	3.2	2.8	2.4	2.2	3.9	45	35
27	20	9.2	34	4.1	4.8	5.0	2.7	2.4	12	3.7	28	67
28	18	9.1	15	5.4	3.3	3.0	2.9	2.3	8.0	3.7	24	32
29	14	23	8.3	15	---	2.8	3.3	2.3	6.0	6.1	20	16
30	13	14	7.0	21	---	2.6	3.1	2.2	4.0	33	24	12
31	278	---	6.5	13	---	2.5	---	2.2	---	24	19	---
TOTAL	1357	448.9	286.3	194.4	120.0	93.3	150.1	104.5	102.4	254.7	1562.5	487.4
MEAN	43.8	15.0	9.24	6.27	4.29	3.01	5.00	3.37	3.41	8.22	50.4	16.2
MAX	278	28	34	21	7.5	5.0	40	11	12	35	320	67
MIN	13	9.1	6.3	4.1	2.9	2.5	1.8	2.2	1.9	2.3	8.6	9.6
AC-FT	2690	890	568	386	238	185	298	207	203	505	3100	967

CAL YR 1980 TOTAL 9955.7 MEAN 27.2 MAX 1190 MIN 3.0 AC-FT 19750
WTR YR 1981 TOTAL 5161.5 MEAN 14.1 MAX 320 MIN 1.8 AC-FT 10240

NOTE.--No gage-height record Mar. 26 to June 3, June 9 to July 15.

MARIANA ISLANDS, ISLAND OF GUAM

16840000 TINAGA RIVER NEAR INARAJAN

LOCATION.--Lat 13°17'10" N., long 144°45'04" E., Hydrologic Unit 20100003, on right bank 0.3 mi (0.5 km) upstream from mouth, 0.9 mi (1.4 km) northeast of Inarajan, and 4.5 mi (7.2 km) south of Talofofo.

DRAINAGE AREA.--1.89 mi² (4.90 km²).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1969, published as Pauliluc River near Inarajan.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--29 years, 5.64 ft³/s (0.160 m³/s), 4,150 acre-ft/yr (5.12 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,980 ft³/s (84.4 m³/s) Oct. 15, 1953, gage height, 13.11 ft (3.996 m), from rating curve extended above 210 ft³/s (5.95 m³/s); minimum, 0.15 ft³/s (0.004 m³/s) May 16, 21-23, 29, 1966, June 13, 29, 30, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 521 ft³/s (14.8 m³/s) Aug. 9, gage height, 4.86 ft (1.481 m), no other peak above base of 400 ft³/s (11.3 m³/s); minimum, 0.50 ft³/s (0.014 m³/s) Apr. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	8.3	4.8	2.9	3.2	1.5	1.1	.76	.66	1.0	14	5.9
2	39	6.0	4.0	2.6	2.6	1.5	1.1	.76	.66	.93	32	5.0
3	26	5.5	3.7	2.5	2.4	1.4	1.0	.71	.71	.93	14	4.7
4	24	5.7	3.6	2.3	2.3	1.4	.93	.66	.71	.93	5.5	6.3
5	20	6.2	3.5	2.2	2.1	1.3	.87	.66	.66	.93	3.9	5.0
6	19	5.4	3.3	2.1	1.9	1.2	.81	.66	.66	.81	3.3	4.3
7	26	5.4	3.2	2.1	1.8	1.1	.76	.66	.62	.76	2.9	4.0
8	36	5.3	3.1	2.1	1.9	1.1	.71	.81	.62	.81	2.8	4.0
9	12	5.4	3.0	2.0	1.8	1.3	.76	.81	.62	.76	26	3.6
10	13	4.9	2.8	2.0	1.7	1.1	.71	.81	.62	1.1	63	3.4
11	8.6	4.6	2.8	2.1	1.6	1.1	.66	1.4	.76	2.5	8.1	3.2
12	11	4.5	2.7	2.0	1.6	1.1	.62	1.6	1.0	12	52	3.1
13	9.1	4.3	2.6	2.0	1.6	1.1	.62	1.8	.87	4.5	60	3.2
14	8.2	4.3	2.5	1.8	1.5	1.1	.58	2.0	.87	5.6	51	4.0
15	7.2	4.1	2.4	1.8	1.4	1.0	.54	1.6	1.6	4.0	110	3.7
16	6.9	4.9	2.3	1.8	1.4	1.0	.54	1.4	1.8	2.3	78	3.3
17	6.6	4.3	3.8	1.6	1.4	1.0	.71	1.1	1.6	2.2	54	3.1
18	6.2	5.0	4.6	1.6	1.8	1.0	12	1.1	1.3	2.9	14	2.8
19	6.2	4.2	3.4	1.6	1.6	.98	5.4	1.0	1.1	2.3	11	3.0
20	6.2	4.4	3.1	2.2	1.6	.98	2.7	.93	1.1	2.5	9.7	4.5
21	6.2	4.1	5.2	2.0	1.6	.98	2.0	.93	1.1	2.2	8.0	4.6
22	6.2	3.9	7.3	1.8	1.5	.96	1.6	.87	.87	1.8	12	3.6
23	5.3	5.7	3.7	2.3	1.6	.95	1.4	.87	.71	1.6	13	3.1
24	5.0	4.3	3.4	2.0	1.5	1.0	1.2	.81	.62	1.3	7.2	3.0
25	4.6	4.0	3.2	1.8	1.5	1.0	1.1	.81	.71	3.8	6.2	4.1
26	7.4	3.7	3.0	1.8	1.4	.98	1.0	.81	.62	1.6	25	24
27	6.5	3.5	18	1.8	2.0	1.2	.87	.76	2.8	1.4	27	24
28	6.1	3.3	8.6	2.0	1.6	1.1	.81	.71	3.8	1.3	24	14
29	5.0	7.4	4.0	4.0	---	1.1	.93	.71	1.8	1.4	9.1	5.6
30	4.7	7.1	3.3	4.7	---	1.0	.81	.71	1.2	5.3	11	4.7
31	74	---	2.9	4.7	---	.93	---	.66	---	9.4	7.2	---
TOTAL	501.2	149.7	127.8	70.2	49.9	34.46	44.84	29.88	32.77	80.86	764.9	170.8
MEAN	16.2	4.99	4.12	2.26	1.78	1.11	1.49	.96	1.09	2.61	24.7	5.69
MAX	79	8.3	18	4.7	3.2	1.5	12	2.0	3.8	12	110	24
MIN	4.6	3.3	2.3	1.6	1.4	.93	.54	.66	.62	.76	2.8	2.8
AC-FT	994	297	253	139	99	68	89	59	65	160	1520	339

CAL YR 1980 TOTAL 3293.01 MEAN 9.00 MAX 400 MIN .62 AC-FT 6530
WTR YR 1981 TOTAL 2057.31 MEAN 5.64 MAX 110 MIN .54 AC-FT 4080

MARIANA ISLANDS, ISLAND OF GUAM

16847000 IMONG RIVER NEAR AGAT

LOCATION.--Lat 13°20'17" N., long 144°41'55" E., Hydrologic Unit 20100003, on left bank 500 ft (152 m) upstream from Fena Valley Reservoir, 1.4 mi (2.3 km) south of Fena Dam spillway, and 4.1 mi (6.6 km) southeast of Agat School.

DRAINAGE AREA.--1.95 mi² (5.05 km²).

PERIOD OF RECORD.--March 1960 to March 1971. October 1971 to current year.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 120 ft (37 m), from topographic map.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--20 years (water years, 1961-70, 1972-81), 10.2 ft³/s (0.289 m³/s), 7,390 acre-ft/yr (9.11 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s (173 m³/s) Sept. 27, 1978, gage height, 11.3 ft (3.444 m), from outside floodmarks, and from rating curve extended above 58 ft³/s (1.64 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.37 ft³/s (0.010 m³/s) May 21, 22, 26, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft³/s (36.0 m³/s) Oct. 1, gage height, 5.14 ft (1.567 m), no peak above base of 1,400 ft³/s (39.6 m³/s); minimum, 1.4 ft³/s (0.040 m³/s) June 7, 8, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	27	8.8	4.8	4.9	2.7	3.4	1.8	1.8	3.2	25	9.8
2	33	12	7.2	4.6	4.1	2.9	2.5	2.0	1.7	3.6	21	8.2
3	29	10	6.3	4.2	4.1	2.6	2.4	1.7	1.7	3.8	37	8.0
4	15	9.8	6.0	4.0	3.6	2.6	2.3	1.8	1.7	9.8	12	8.2
5	13	10	5.9	3.8	3.3	2.7	2.2	1.9	1.7	5.1	8.0	7.3
6	15	9.0	5.6	3.6	3.3	2.6	2.2	1.9	1.7	3.5	6.4	7.1
7	30	11	5.4	3.4	3.3	2.5	2.2	2.0	1.5	3.0	5.7	7.2
8	34	9.0	5.2	3.4	3.4	2.7	2.2	2.8	1.4	3.0	6.0	6.7
9	13	9.5	5.0	3.3	3.2	3.1	2.5	6.7	1.9	2.8	80	6.8
10	13	9.0	4.7	3.2	3.0	2.6	2.2	2.3	1.5	15	30	6.4
11	10	8.0	4.6	3.5	3.0	2.6	2.2	10	1.8	12	12	6.1
12	15	7.3	4.4	3.2	3.0	2.9	2.2	5.6	2.1	21	60	5.9
13	12	6.8	4.3	3.2	3.1	3.0	2.3	4.3	2.0	9.7	36	5.7
14	12	6.5	4.2	3.0	3.0	2.5	2.2	4.3	1.7	11	25	7.4
15	11	6.4	4.0	3.0	2.8	2.4	2.2	3.4	3.3	6.8	100	6.0
16	12	11	4.0	2.9	3.0	2.4	2.1	2.8	2.6	4.7	101	5.7
17	15	7.4	9.3	2.9	2.8	2.4	2.5	2.4	2.0	3.9	45	26
18	11	6.3	6.9	2.8	4.9	2.3	15	2.2	2.6	3.6	22	42
19	14	6.3	6.2	2.8	3.1	2.2	5.2	2.1	2.0	5.1	21	10
20	10	7.2	8.6	4.5	2.8	2.2	5.1	2.0	2.2	11	24	7.3
21	9.7	6.2	5.2	3.8	2.8	2.2	3.2	1.9	2.0	5.4	21	8.3
22	9.5	6.8	4.4	3.2	2.9	2.2	2.4	1.8	1.7	4.0	15	6.6
23	8.6	16	4.2	3.6	3.0	2.3	2.3	1.8	1.6	3.3	12	6.6
24	8.0	7.8	4.0	3.0	3.0	2.3	2.1	1.8	1.6	12	11	7.8
25	8.4	6.6	3.8	3.5	2.7	2.4	2.0	1.8	1.7	7.3	12	14
26	12	6.0	3.9	3.5	2.6	2.4	2.0	1.7	1.8	4.6	29	26
27	24	5.8	39	3.0	2.9	3.5	2.0	1.6	11	3.8	22	53
28	11	5.6	17	3.9	2.8	2.3	2.0	1.6	4.3	3.9	22	19
29	8.3	28	9.8	7.5	---	2.4	2.5	1.6	4.9	12	12	10
30	7.3	11	6.0	19	---	2.5	1.9	1.6	3.2	61	10	8.5
31	93	---	5.0	8.1	---	2.5	---	1.6	---	21	9.2	---
TOTAL	615.8	289.3	218.9	132.2	90.4	78.9	87.5	82.8	72.7	279.9	852.3	357.6
MEAN	19.9	9.64	7.06	4.26	3.23	2.55	2.92	2.67	2.42	9.03	27.5	11.9
MAX	99	28	39	19	4.9	3.5	15	10	11	61	101	53
MIN	7.3	5.6	3.8	2.8	2.6	2.2	1.9	1.6	1.4	2.8	5.7	5.7
AC-FT	1220	574	434	262	179	156	174	164	144	555	1690	709

CAL YR 1980 TOTAL 4843.0 MEAN 13.2 MAX 300 MIN 2.1 AC-FT 9610
WTR YR 1981 TOTAL 3158.3 MEAN 8.65 MAX 101 MIN 1.4 AC-FT 6260

MARIANA ISLANDS, ISLAND OF GUAM

16848100 ALMAGOSA RIVER NEAR AGAT

LOCATION.--Lat 13°20'43" N., long 144°41'36" E., Hydrologic Unit 20100003, on right bank 400 ft (122 m) upstream from Fena Valley Reservoir and 3.5 mi (5.6 km) southeast of Agat.

DRAINAGE AREA.--1.32 mi² (3.42 km²).

PERIOD OF RECORD.--April 1972 to current year.

REVISED RECORD.--WDR HI-75-1: Drainage area. WDR HI-76-1: 1972(P), 1973(M), 1974-75(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 155 ft (47 m), from topographic map.

REMARKS.--Records fair. Up to 3.9 ft³/s (0.11 m³/s) diverted upstream for domestic use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 6.40 ft³/s (0.181 m³/s), 4,640 acre-ft/yr (5.72 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,650 ft³/s (75.0 m³/s) Sept. 27, 1978, gage height, 7.78 ft (2.371 m), from rating curve extended above 46 ft³/s (1.30 m³/s) on basis of slope-area measurement at gage height 7.32 ft (2.231 m); minimum, 0.13 ft³/s (0.004 m³/s) June 27, July 11, 12, 14, 16, 17, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 604 ft³/s (17.1 m³/s) Aug. 9, gage height, 4.81 ft (1.466 m), from rating curve extended as explained above, no peak above base of 700 ft³/s (19.8 m³/s); minimum, 0.27 ft³/s (0.0076 m³/s) Aug. 14-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	15	4.8	1.9	1.9	.58	.58	.39	.39	1.3	31	5.5
2	25	9.6	4.1	1.6	1.2	.68	.43	.35	.39	1.6	24	4.5
3	25	7.3	3.7	1.4	1.0	.58	.39	.35	.43	2.5	37	4.0
4	8.0	6.2	3.4	1.2	.89	.52	.39	.35	.43	4.5	16	4.3
5	7.5	5.5	3.0	1.1	.84	.58	.35	.35	.39	2.5	10	3.6
6	10	4.7	2.7	.95	.95	.52	.35	.31	.47	2.2	6.7	3.3
7	22	5.2	2.5	.89	.89	.52	.35	.39	.39	2.0	4.9	3.1
8	29	4.5	2.2	.89	.95	.47	.35	1.0	.39	2.5	4.0	3.1
9	15	4.2	2.1	.84	.95	.63	.39	6.0	.47	1.8	69	3.7
10	13	3.7	1.9	.89	.89	.58	.31	.89	.35	7.5	62	2.9
11	10	3.6	1.7	1.0	.84	.52	.31	4.2	.58	7.0	22	2.7
12	20	3.4	1.6	1.1	.84	.58	.31	4.4	.79	15	36	2.4
13	9.0	3.2	1.6	1.0	.79	.68	.31	4.2	.43	5.5	44	2.2
14	8.0	3.0	1.4	.95	.74	.52	.31	3.1	.35	10	26	3.3
15	7.9	3.1	1.4	.95	.68	.47	.27	2.1	1.2	5.0	69	2.3
16	7.3	8.2	1.3	.95	.74	.47	.27	1.2	.89	3.0	97	2.0
17	8.3	3.4	3.3	.95	.68	.43	.39	.74	.52	2.5	64	4.9
18	6.4	3.8	2.7	.95	1.2	.43	3.3	.79	1.4	2.3	29	11
19	8.5	3.9	1.8	.89	.79	.39	1.2	.84	.68	3.0	20	4.5
20	6.9	3.9	1.9	1.6	.68	.39	1.1	.74	.58	7.0	17	3.2
21	6.6	3.6	1.8	1.4	.63	.39	.74	.58	.52	3.0	14	3.1
22	6.2	4.4	1.7	1.0	.63	.39	.47	.52	.43	2.5	10	3.1
23	5.5	13	1.4	.89	.58	.43	.43	.52	.43	2.0	8.1	3.2
24	5.0	4.8	1.2	.84	.68	.43	.43	.47	.43	6.0	6.6	4.4
25	6.5	4.2	1.1	.84	.58	.43	.39	.43	.35	3.5	6.5	8.0
26	9.3	3.8	1.0	.89	.52	.39	.35	.43	.47	2.5	17	20
27	16	4.1	10	.79	.58	.68	.35	.43	5.3	2.0	13	50
28	7.3	3.4	12	.89	.58	.43	.35	.39	1.9	2.2	17	19
29	6.0	16	3.6	2.8	---	.43	.58	.39	2.7	9.4	9.6	11
30	5.6	6.2	2.7	7.0	---	.43	.39	.39	.95	59	7.1	8.0
31	63	---	2.1	3.3	---	.39	---	.39	---	33	5.8	---
TOTAL	453.8	168.9	87.7	42.64	23.22	15.36	16.14	37.63	25.00	213.8	803.3	206.3
MEAN	14.6	5.63	2.83	1.38	.83	.50	.54	1.21	.83	6.90	25.9	6.88
MAX	70	16	12	7.0	1.9	.68	3.3	6.0	5.3	59	97	50
MIN	5.0	3.0	1.0	.79	.52	.39	.27	.31	.35	1.3	4.0	2.0
AC-FT	900	335	174	85	46	30	32	75	50	424	1590	409

CAL YR 1980 TOTAL 2731.77 MEAN 7.46 MAX 250 MIN .24 AC-FT 5420
WTR YR 1981 TOTAL 2093.79 MEAN 5.74 MAX 97 MIN .27 AC-FT 4150

MARIANA ISLANDS, ISLAND OF GUAM

16848500 MAULAP RIVER NEAR AGAT

LOCATION.--Lat 13°21'14" N., long 144°41'44" E., Hydrologic Unit 20100003, on right bank 100 ft (30 m), from Fena Valley Reservoir and 3.2 mi (5.1 km) southeast of Agat.

DRAINAGE AREA.--1.15 mi² (2.98 km²).

PERIOD OF RECORD.--January 1972 to current year.

REVISED RECORDS.--WRD Hawaii 1973: 1972. WRD HI-75-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 130 ft (40 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 5.30 ft³/s (0.150 m³/s), 3,840 acre-ft/yr (4.73 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s (68.5 m³/s) Sept. 27, 1978, gage height, 9.2 ft (2.804 m), from rating curve extended above 23 ft³/s (0.65 m³/s), on basis of slope-area measurements at gage heights 8.21 ft (2.502 m) and 9.2 ft (2.804 m); minimum, 0.33 ft³/s (0.009 m³/s) June 10-12, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
July 30	1245	*1230	34.8	*7.00	2.134	Aug. 16	2130	1110	31.4	6.70	2.042
Aug. 9	a2230	642	18.2	5.44	1.658	Sept. 27	0200	711	20.1	5.67	1.728

Minimum discharge, 0.59 ft³/s (0.017 m³/s) June 10.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	3.9	2.6	2.0	2.5	1.4	1.5	1.0	.90	2.7	22	4.8
2	25	3.6	2.4	1.9	2.2	1.7	1.2	1.0	.85	2.9	12	4.2
3	6.1	3.4	2.4	1.9	2.1	1.4	1.0	1.0	.85	3.4	26	4.1
4	6.1	3.2	2.3	1.9	1.9	1.3	1.0	1.0	.80	2.9	6.8	4.1
5	8.7	3.1	2.3	1.8	1.8	1.7	1.0	1.0	.80	2.0	5.1	4.0
6	8.1	3.1	2.2	1.8	1.8	1.5	1.0	1.0	.75	1.8	4.2	3.8
7	18	3.8	2.2	1.8	1.8	1.7	.95	1.0	.75	1.5	3.7	3.9
8	25	2.9	2.2	2.4	1.9	1.7	.95	1.4	.70	2.3	3.3	3.5
9	5.9	2.9	2.2	1.9	1.7	1.4	1.2	9.1	.91	1.5	84	4.3
10	6.9	3.4	2.2	1.7	1.7	1.4	1.0	1.2	.67	4.5	23	3.6
11	5.0	2.7	2.0	2.6	1.7	1.3	1.0	7.0	1.2	4.0	8.5	3.4
12	17	2.7	2.0	2.0	1.7	1.3	1.0	3.1	1.5	12	41	3.3
13	4.6	2.7	2.0	1.9	1.7	1.2	.95	5.0	.83	4.3	20	3.2
14	4.6	2.7	1.9	1.8	1.7	1.2	.95	2.9	.75	11	19	4.3
15	5.2	6.7	1.9	1.7	1.7	1.2	.90	1.8	2.7	4.3	67	3.4
16	5.5	8.7	1.9	1.7	2.1	1.2	.90	1.5	1.3	2.9	100	3.2
17	6.0	2.7	4.0	1.6	2.5	1.1	1.0	1.3	1.0	2.4	30	3.4
18	4.9	3.8	2.3	1.5	4.1	1.1	5.0	1.2	3.2	2.2	14	8.4
19	9.3	2.7	1.9	1.5	2.0	1.1	2.0	1.2	1.2	2.9	10	3.6
20	4.7	2.4	2.3	2.9	1.8	1.1	1.5	1.1	1.1	13	9.7	3.2
21	4.6	2.3	2.0	2.2	1.7	1.0	1.2	1.1	1.0	2.7	11	3.3
22	5.6	5.0	1.9	1.9	1.7	1.0	1.1	1.0	.83	2.2	8.2	3.3
23	4.0	14	1.9	1.8	1.5	1.0	1.1	1.0	.91	1.9	6.3	3.9
24	3.8	2.6	1.9	1.6	1.4	1.0	1.1	1.0	.83	4.3	5.4	6.0
25	5.5	2.4	1.9	1.7	1.3	1.0	1.1	.95	.75	2.7	6.0	10
26	13	2.3	1.9	2.0	1.5	1.0	1.0	.95	.75	2.0	22	20
27	18	3.6	39	1.7	1.4	1.5	1.0	.90	6.0	1.9	16	39
28	4.2	2.4	12	2.2	1.7	1.2	1.0	.90	1.9	2.0	12	12
29	3.9	18	3.5	5.6	---	1.2	1.2	.90	4.5	6.9	5.9	5.7
30	4.2	3.2	2.6	13	---	1.0	1.0	.85	2.6	72	5.2	5.3
31	58	---	2.2	3.3	---	1.0	---	.85	---	17	4.8	---
TOTAL	328.4	126.9	116.0	75.3	52.6	38.9	36.80	55.20	42.83	200.1	612.1	188.2
MEAN	10.6	4.23	3.74	2.43	1.88	1.25	1.23	1.78	1.43	6.45	19.7	6.27
MAX	58	18	39	13	4.1	1.7	5.0	9.1	6.0	72	100	39
MIN	3.8	2.3	1.9	1.5	1.3	1.0	.90	.85	.67	1.5	3.3	3.2
AC-FT	651	252	230	149	104	77	73	109	85	397	1210	373

CAL YR 1980 TOTAL 2357.60 MEAN 6.44 MAX 249 MIN 1.1 AC-FT 4680
WTR YR 1981 TOTAL 1873.33 MEAN 5.13 MAX 100 MIN .67 AC-FT 3720

NOTE.--No gage-height record Feb. 20 to Apr. 21.

MARIANA ISLANDS, ISLAND OF GUAM

16849000 FENA DAM SPILLWAY NEAR AGAT

LOCATION.--Lat 13°21'28" N., long 144°42'12" E., Hydrologic Unit 20100003, on left bank 3.5 mi (5.6 km) southeast of Agat and 5.8 mi (9.3 km) southwest of Yona.

DRAINAGE AREA.--5.88 mi^2 (15.23 km^2).

PERIOD OF RECORD.--September 1951 to July 1952, November 1952 to current year. Daily mean gage heights published since October 1973.

REVISED RECORDS.--WSP 2137: Drainage area. WDR HI-78-2: 1977(M, m).

GAGE.--Water-stage recorder and concrete-dam control. Datum of gage is 111.35 ft (33.939 m) above mean sea level (from U.S. Navy construction plans).

REMARKS.--Gage-height records fair. About 10 ft^3/s (0.28 m^3/s) is diverted from Fena Valley Reservoir and tributary springs for military and civilian use. Discharge records represent flow over spillway only.

AVERAGE DISCHARGE.--20 years (1953-73), 17.9 ft^3/s (0.507 m^3/s), 12,970 acre-ft/yr (16.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined, occurred Oct. 15, 1953 (gage height, at least 4.5 ft or 1.37 m); no flow for many days each year. Minimum recorded gage height, -21.36 ft (-6.51 m), Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 1.64 ft (0.500 m), Aug. 16; minimum, -10.96 ft (-3.341 m) June 27.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	.42	.16	.02	-.16	-2.15	-5.08	-7.49	-8.85	-10.60	-3.51	.09
2	.66	.32	.13	.00	-.19	-2.23	-5.15	-7.60	-8.95	-10.58	-2.70	.08
3	.59	.25	.11	-.02	-.23	-2.31	-5.26	-7.71	-9.04	-10.58	-1.59	.03
4	.45	.23	.09	-.03	-.29	-2.41	-5.36	-7.81	-9.14	-10.50	-1.03	.06
5	.44	.21	.09	-.06	-.36	-2.49	-5.49	-7.92	-9.25	-10.41	-.82	.07
6	.38	.18	.07	-.08	-.44	-2.56	-5.59	-8.04	-9.34	-10.41	-.70	.07
7	.53	.23	.06	-.11	-.50	-2.67	-5.69	-8.12	-9.44	-10.44	-.63	.06
8	.61	.21	.03	-.11	-.55	-2.77	-5.79	-8.15	-9.56	-10.48	-.58	.07
9	.44	.19	.02	-.15	-.62	-2.84	-5.89	-7.90	-9.66	-10.53	.05	.08
10	.41	.20	.02	-.19	-.70	-2.93	-6.01	-7.91	-9.76	-10.40	.55	.07
11	.39	.18	.01	-.18	-.78	-3.03	-6.14	-7.84	-9.85	-10.11	.20	.04
12	.50	.17	-.01	-.20	-.87	-3.13	-6.25	-7.55	-9.87	-9.66	.34	.03
13	.40	.16	-.01	-.26	-.97	-3.18	-6.34	-7.39	-9.97	-9.51	.46	.03
14	.38	.14	-.02	-.29	-1.05	-3.27	-6.49	-7.30	-10.08	-9.04	.29	.07
15	.39	.13	-.04	-.34	-1.13	-3.38	-6.60	-7.29	-10.04	-8.66	.62	.07
16	.40	.28	-.05	-.42	-1.20	-3.50	-6.74	-7.34	-10.10	-8.59	.86	.06
17	.43	.17	.04	-.48	-1.28	-3.61	-6.79	-7.38	-10.16	-8.57	.67	.10
18	.41	.15	.10	-.53	-1.26	-3.71	-6.51	-7.43	-10.22	-8.59	.28	.26
19	.45	.17	.07	-.61	-1.30	-3.82	-6.39	-7.51	-10.25	-8.61	.22	.19
20	.43	.15	.07	-.61	-1.38	-3.92	-6.40	-7.58	-10.34	-8.36	.25	.10
21	.41	.12	.06	-.51	-1.46	-4.04	-6.47	-7.67	-10.41	-8.09	.23	.08
22	.40	.12	.04	-.55	-1.55	-4.14	-6.56	-7.78	-10.51	-8.09	.21	.08
23	.37	.34	.01	-.62	-1.63	-4.24	-6.66	-7.89	-10.61	-8.11	.15	.08
24	.35	.18	-.01	-.66	-1.71	-4.34	-6.76	-8.00	-10.70	-8.04	.11	.10
25	.39	.13	-.04	-.71	-1.80	-4.45	-6.89	-8.10	-10.82	-7.84	.11	.16
26	.47	.11	-.06	-.72	-1.89	-4.55	-6.99	-8.20	-10.91	-7.80	.30	.33
27	.57	.09	.35	-.78	-1.99	-4.59	-7.11	-8.31	-10.86	-7.81	.17	.51
28	.46	.09	.29	-.83	-2.06	-4.69	-7.20	-8.42	-10.64	-7.84	.29	.28
29	.40	.32	.12	-.70	---	-4.80	-7.28	-8.53	-10.60	-7.72	.15	.17
30	.38	.24	.07	-.46	---	-4.90	-7.39	-8.65	-10.58	-6.30	.10	.18
31	.94	---	.05	-.16	---	-5.00	---	-8.75	---	-4.35	.08	---
MEAN	.48	.20	.06	-.37	-1.05	-3.54	-6.31	-7.86	-10.02	-8.92	-.16	.12
MAX	.99	.42	.35	.02	-.16	-2.15	-5.08	-7.29	-8.85	-4.35	.86	.51
MIN	.35	.09	-.06	-.83	-2.06	-5.00	-7.39	-8.75	-10.91	-10.60	-3.51	.03

WTR YR 1981 MEAN -3.12 MAX .99 MIN -10.91

MARIANA ISLANDS, ISLAND OF GUAM

16854500 UGUM RIVER ABOVE TALOFOFO FALLS, NEAR TALOFOFO, GUAM

LOCATION.--Lat 13°19'16" N., long 144°44'01" E., Hydrologic Unit 20100003, about 300 ft (91 m) upstream from Talofofo Falls, 0.9 mi (1.4 km) north of NASA Tracking Station, and 3.5 mi (5.6 km) southwest of main intersection in Talofofo village.

DRAINAGE AREA.--5.76 mi^2 (14.92 km^2).

PERIOD OF RECORD.--June 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 130 ft (40 m), from topographic map.

REMARKS.--Records fair. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,890 ft^3/s (167 m^3/s) Feb. 26, 1980, gage height, 14.2 ft (4.328 m), from floodmarks, from rating curve extended above 350 ft^3/s (9.91 m^3/s); on basis of slope-area measurement at gage height 14.2 ft (4.328 m); minimum, 3.4 ft^3/s (0.10 m^3/s), June 27, 1978, July 14, 18, 19, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft^3/s (24.1 m^3/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 1	0245	*1830	51.8	*8.30	2.530	Aug. 12	2400	1260	35.7	7.04	2.146
Oct. 31	0715	1170	33.1	6.83	2.082	Aug. 15	2030	1780	50.4	8.20	2.499
Aug. 9	2300	1020	28.9	6.46	1.969	Sept. 18	1630	1700	48.1	8.04	2.451

Minimum discharge, 3.7 ft^3/s (0.10 m^3/s) June 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252	38	22	14	16	8.8	8.0	6.4	5.0	6.8	44	33
2	135	28	20	13	13	8.5	7.3	6.1	5.0	6.8	43	29
3	91	26	18	13	14	8.0	6.3	6.1	5.2	5.9	63	26
4	64	27	17	13	12	7.8	6.6	6.4	5.0	9.0	26	29
5	53	29	17	12	11	8.5	6.6	6.8	5.0	7.9	19	25
6	61	24	16	12	11	8.2	6.6	6.1	5.2	6.1	16	23
7	111	32	16	12	11	8.0	6.4	6.1	5.0	5.4	15	22
8	134	24	15	12	12	8.0	6.4	7.5	5.0	8.5	16	22
9	56	24	15	12	10	9.0	6.4	8.2	5.4	6.8	135	21
10	57	24	14	12	10	8.2	6.4	6.6	5.0	21	98	20
11	45	26	14	13	10	8.0	6.1	22	5.7	29	35	20
12	57	27	14	12	9.8	8.2	6.1	13	6.4	54	140	19
13	41	23	14	12	9.5	8.8	6.1	9.0	5.7	12	159	22
14	42	21	14	11	9.2	7.8	5.9	12	5.2	28	102	29
15	38	21	14	11	9.2	7.5	5.9	9.5	9.0	18	316	20
16	39	42	14	11	8.8	7.5	5.9	7.5	7.8	12	199	18
17	39	22	24	11	8.8	7.3	6.6	6.6	6.4	10	138	88
18	30	26	22	11	14	7.3	52	6.1	6.6	11	70	152
19	36	22	16	11	9.5	7.3	18	5.9	5.9	12	58	39
20	32	22	16	13	9.0	7.3	12	5.7	6.1	25	118	29
21	38	19	18	11	9.2	7.3	9.2	5.7	5.7	14	69	29
22	28	19	16	11	9.0	7.3	7.8	5.4	5.2	10	62	23
23	25	56	14	13	9.5	7.3	7.5	5.4	5.0	9.0	51	24
24	24	21	13	11	9.2	7.3	6.8	5.4	4.7	9.0	44	27
25	23	19	13	11	8.8	7.8	6.8	5.2	4.7	8.8	40	45
26	32	19	13	12	8.8	7.3	6.6	5.2	4.9	8.0	110	28
27	42	18	85	11	9.5	12	6.6	5.2	26	7.8	76	108
28	27	20	36	11	8.5	10	6.4	5.2	14	8.2	56	51
29	24	66	17	24	---	7.3	7.8	5.2	8.5	15	41	32
30	24	35	14	46	---	7.0	6.4	5.0	6.8	83	47	27
31	258	---	14	33	---	7.0	---	5.0	---	42	32	---
TOTAL	1958	820	585	435	290.3	247.6	263.5	221.5	201.1	509.6	2438	1080
MEAN	63.2	27.3	18.9	14.0	10.4	7.99	8.78	7.15	6.70	16.4	78.6	36.0
MAX	258	66	85	46	16	12	52	22	26	83	316	152
MIN	23	18	13	11	8.5	7.0	5.9	5.0	4.7	5.4	15	18
AC-FT	3880	1630	1160	863	576	491	523	439	399	1010	4840	2140

CAL YR 1980 TOTAL 13732.8 MEAN 37.5 MAX 1000 MIN 9.4 AC-FT 27240
WTR YR 1981 TOTAL 9049.6 MEAN 24.8 MAX 316 MIN 4.7 AC-FT 17950

MARIANA ISLANDS, ISLAND OF GUAM

16854500 UGUM RIVER ABOVE TALOFOFO FALLS, NEAR TALOFOFO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to June 1981.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: August 1980 to June 1981 (discontinued).

INSTRUMENTATION.--Automatic pumping sampler since August 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 563 mg/L Oct. 31, 1980; minimum daily mean, 3 mg/L Dec. 13, 14, 1980.
SEDIMENT DISCHARGE: Maximum daily, 801 tons (727 tonnes) Oct. 1, 1980; minimum daily, 0.10 ton (0.09 tonne) June 24, 25, 1981.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 563 mg/L Oct. 31, 1980; minimum daily mean, 3 mg/L Dec. 13, 14.
SEDIMENT DISCHARGE: Maximum daily, 801 tons (727 tonnes) Oct. 1; minimum daily, 0.10 ton (0.09 tonne) June 24, 25.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), AUGUST TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
AUG				AUG			
20...	21	15	0.85	30...	19	10	0.51
21...	18	13	.63	31...	17	8	.37
22...	18	12	.37				
23...	94	126	47				
24...	28	20	1.5	SEP			
25...	38	22	3.0	6...	187	223	591
26...	26	15	1.1	7...	167	239	268
27...	21	12	.68	8...	112	171	89
28...	21	11	.62	11...	85	60	14
29...	23	15	.93	12...	68	50	9.2

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	252	558	801	38	50	5.1	22	22	1.3
2	135	227	113	28	25	1.9	20	20	1.1
3	91	166	60	26	20	1.4	18	18	.87
4	64	70	12	27	20	1.5	17	15	.69
5	53	35	5.0	29	16	1.3	17	15	.69
6	61	50	8.2	24	12	.78	16	8	.35
7	111	60	18	32	22	1.9	16	6	.26
8	134	207	164	24	20	1.3	15	6	.24
9	56	30	4.5	24	18	1.2	15	6	.24
10	57	50	7.7	24	9	.58	14	6	.23
11	45	35	4.3	26	10	.70	14	6	.23
12	57	40	6.2	27	15	1.1	14	5	.19
13	41	25	2.8	23	12	.75	14	3	.11
14	42	28	3.2	21	10	.57	14	3	.11
15	38	24	2.5	21	8	.45	14	6	.23
16	39	26	2.7	42	26	4.0	14	8	.30
17	39	28	2.9	22	10	.59	24	25	1.6
18	30	25	2.0	26	15	1.1	22	20	1.2
19	36	28	2.7	22	12	.71	16	8	.35
20	32	26	2.2	22	8	.48	16	12	.52
21	38	28	2.9	19	8	.41	18	20	.97
22	28	24	1.8	19	8	.41	16	18	.78
23	25	22	1.5	56	36	8.8	14	10	.38
24	24	20	1.3	21	10	.57	13	8	.28
25	23	18	1.1	19	8	.41	13	6	.21
26	32	18	1.6	19	6	.31	13	5	.18
27	42	22	2.5	18	8	.39	85	160	97
28	27	20	1.5	20	10	.54	36	44	5.8
29	24	20	1.3	66	59	17	17	14	.64
30	24	20	1.3	35	40	3.8	14	12	.45
31	258	563	714	---	---	---	14	10	.38
TOTAL	1958	---	1955.7	820	---	60.05	585	---	117.88

MARIANA ISLANDS, ISLAND OF GUAM

16854500 UGUM RIVER ABOVE TALOFOFO FALLS NEAR TALOFOFO, GUAM--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	14	20	.76	16			8.8	---	---
2	13	15	.53	13			8.5	---	---
3	13	12	.42	14			8.0	---	---
4	13	12	.42	12			7.8	---	---
5	12	12	.39	11			8.5	---	---
6	12	12	.39	11			8.2	---	---
7	12	15	.49	11			8.0	---	---
8	12	10	.32	12			8.0	---	---
9	12	10	.32	10			9.0	---	---
10	12	9	.29	10			8.2	---	---
11	13	11	.39	10			8.0	---	---
12	12	10	.32	9.8			8.2	---	---
13	12	6	.19	9.5			8.8	---	---
14	11	6	.18	9.2			7.8	---	---
15	11	6	.18	9.2			7.5	---	---
16	11	6	.18	8.8			7.5	---	---
17	11	6	.18	8.8			7.3	---	---
18	11	6	.18	14			7.3	---	---
19	11	5	.15	9.5			7.3	12	.24
20	13	10	.35	9.0			7.3	8	.16
21	11	8	.24	9.2			7.3	7	.14
22	11	6	.18	9.0			7.3	7	.14
23	13	15	.53	9.5			7.3	8	.16
24	11	13	.39	9.2			7.3	8	.16
25	11	11	.33	8.8			7.8	9	.19
26	12	11	.36	8.8			7.3	8	.16
27	11	10	.30	9.5			12	15	.49
28	11	12	.36	8.5			10	10	.27
29	24	25	1.6	---			7.3	10	.20
30	46	50	6.2	---			7.0	8	.15
31	33	35	3.1	---			7.0	8	.15
TOTAL	435	---	20.22	290.3			247.6	---	2.61
		APRIL			MAY			JUNE	
1	8.0	18	.39	6.4	10	.17	5.0	8	.11
2	7.3	15	.30	6.1	10	.16	5.0	8	.11
3	6.3	12	.20	6.1	8	.13	5.2	12	.17
4	6.6	12	.21	6.4	10	.17	5.0	8	.11
5	6.6	12	.21	6.8	12	.22	5.0	10	.14
6	6.6	12	.21	6.1	10	.16	5.2	12	.17
7	6.4	10	.17	6.1	10	.16	5.0	10	.14
8	6.4	10	.17	7.5	15	.30	5.0	8	.11
9	6.4	12	.21	8.2	18	.40	5.4	10	.15
10	6.4	12	.21	6.6	12	.21	5.0	8	.11
11	6.1	12	.20	22	40	2.4	5.7	10	.15
12	6.1	12	.20	13	30	1.1	6.4	12	.21
13	6.1	12	.20	9.0	25	.61	5.7	15	.23
14	5.9	12	.19	12	30	.97	5.2	12	.17
15	5.9	10	.16	9.5	20	.51	9.0	20	.49
16	5.9	10	.16	7.5	20	.41	7.8	18	.38
17	6.6	12	.21	6.6	15	.27	6.4	12	.21
18	52	50	7.0	6.1	12	.20	6.6	15	.27
19	18	35	1.7	5.9	10	.16	5.9	10	.16
20	12	30	.97	5.7	10	.15	6.1	10	.16
21	9.2	26	.65	5.7	10	.15	5.7	10	.15
22	7.8	18	.38	5.4	10	.15	5.2	10	.14
23	7.5	15	.30	5.4	10	.15	5.0	8	.11
24	6.8	12	.22	5.4	8	.12	4.7	8	.10
25	6.8	12	.22	5.2	8	.11	4.7	8	.10
26	6.6	10	.18	5.2	8	.11	4.9	8	.11
27	6.6	10	.18	5.2	8	.11	26	40	2.8
28	6.4	10	.17	5.2	8	.11	14	30	1.1
29	7.8	15	.32	5.2	8	.11	8.5	20	.46
30	6.4	12	.21	5.0	8	.11	6.8	12	.22
31	---	---	---	5.0	8	.11	---	---	---
TOTAL	263.5	---	16.10	221.5	---	10.20	201.1	---	9.04

NOTE.--No sediment record Feb. 1 to Mar. 18, July 1 to Sept. 30.

MARIANA ISLANDS, ISLAND OF GUAM

16858000 YLIG RIVER NEAR YONA

LOCATION.--Lat 13°23'28" N., long 144°45'06" E., Hydrologic Unit 20100003, on right bank 2.2 mi (3.5 km) upstream from mouth, 1.9 mi (3.1 km) southwest of Yona, and 5.6 mi (9.0 km) south of Agana.

DRAINAGE AREA.--6.48 mi² (16.78 km²).

PERIOD OF RECORD.--June 1952 to current year.

REVISED RECORDS.--WSP 1937: 1957-58. WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--29 years, 28.7 ft³/s (0.813 m³/s), 20,790 acre-ft/yr (25.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft³/s (139 m³/s) Sept. 9, 1963, gage height, 19.77 ft (6.026 m), from floodmarks, from rating curve extended above 830 ft³/s (23.5 m³/s) on basis of slope-area measurements at gage heights 11.24 ft (3.426 m) and 15.87 ft (4.837 m), maximum gage height, 22.80 ft (6.949 m) Feb. 26, 1980; minimum, 0.07 ft³/s (0.002 m³/s) May 20, 1973, but may have been less during period of diversion from gage pool May 15 to June 20, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*), from rating curve extended above 155 ft³/s:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 27	1100	*2820	79.9	*16.35	4.983
Aug. 9	2245	2670	75.6	15.84	4.828
Aug. 16	2245	2160	61.2	13.93	4.246

Minimum discharge, 1.2 ft³/s (0.034 m³/s) Apr. 15-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	364	26	16	14	11	3.6	4.3	3.5	2.0	13	168	21
2	218	22	17	13	9.7	3.8	3.2	2.8	1.9	49	69	19
3	101	19	14	12	8.6	3.4	2.4	2.7	2.5	14	102	18
4	97	18	13	11	7.8	3.1	2.4	2.6	2.9	11	37	17
5	47	21	13	11	7.0	4.5	2.8	2.8	2.4	9.2	36	16
6	94	16	12	9.4	6.6	3.6	2.1	2.7	2.6	13	28	15
7	149	19	11	9.1	6.6	3.3	1.9	2.9	2.5	11	24	14
8	134	18	10	8.8	7.0	3.8	1.7	16	2.2	10	26	13
9	48	18	10	8.3	6.3	3.6	1.8	7.9	2.2	8.5	400	13
10	47	16	10	7.8	5.9	3.3	1.9	4.6	2.1	12	214	14
11	35	16	9.6	10	5.9	3.3	1.6	12	15	38	55	12
12	32	15	9.2	7.6	5.7	4.1	2.0	8.7	9.9	85	175	11
13	28	14	9.3	7.0	5.3	3.4	1.8	8.9	4.8	36	193	11
14	27	13	8.7	6.6	5.1	3.1	1.4	6.6	4.7	80	151	23
15	25	34	8.2	6.3	4.9	3.3	1.3	6.8	97	27	451	12
16	25	68	8.0	6.1	4.9	2.9	1.3	5.7	18	20	499	14
17	22	17	75	5.9	4.7	2.8	1.5	6.3	11	41	261	15
18	32	19	45	5.9	11	2.7	73	4.3	8.2	46	63	51
19	23	16	13	5.5	5.5	2.6	17	4.0	7.9	23	45	18
20	21	14	15	7.3	4.7	2.8	11	3.6	6.9	26	38	15
21	21	19	19	6.1	4.3	2.6	8.0	3.4	6.4	18	39	13
22	18	22	22	5.5	4.3	2.6	5.7	2.9	5.4	15	37	11
23	17	96	12	5.5	4.0	2.5	5.2	2.8	5.0	13	31	11
24	16	17	11	5.1	4.0	2.4	4.5	2.6	4.7	13	25	12
25	25	15	9.4	5.1	3.6	2.6	3.9	2.5	4.5	13	22	20
26	21	14	9.1	7.3	3.4	2.5	3.8	2.6	4.9	12	168	152
27	23	13	515	5.9	3.8	4.1	3.9	2.5	17	11	121	117
28	17	13	50	6.8	4.0	2.6	3.7	2.2	11	12	50	80
29	15	38	22	35	---	2.4	5.2	2.2	7.6	28	29	25
30	17	20	18	48	---	2.4	4.1	2.0	8.0	272	25	43
31	240	---	15	20	---	2.8	---	2.0	---	96	23	---
TOTAL	1999	686	1029.5	322.9	165.6	96.5	184.4	143.1	281.2	1075.7	3605	826
MEAN	64.5	22.9	33.2	10.4	5.91	3.11	6.15	4.62	9.37	34.7	116	27.5
MAX	364	96	515	48	11	4.5	73	16	97	272	499	152
MIN	15	13	8.0	5.1	3.4	2.4	1.3	2.0	1.9	8.5	22	11
AC-FT	3970	1360	2040	640	328	191	366	284	558	2130	7150	1640

CAL YR 1980 TOTAL 12201.1 MEAN 33.3 MAX 1160 MIN 2.4 AC-FT 24200
WTR YR 1981 TOTAL 10414.9 MEAN 28.5 MAX 515 MIN 1.3 AC-FT 20660

MARIANA ISLANDS, ISLAND OF GUAM

16858000 YLIG RIVER NEAR YONA

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: August 1980 to current year.

INSTRUMENTATION.--Automatic pumping sampler since August 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 705 mg/L Sept. 9, 1980; minimum daily mean, 0 mg/L Mar. 10, 11, 1981.
SEDIMENT DISCHARGE: Maximum daily, 2,390 tons (2,168 tonnes) Sept. 9, 1980; minimum daily, 0 ton (0 tonne) Mar. 10, 11, 1981.

EXTREMES FOR CURRENT YEAR--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 462 mg/L Dec. 27, 1980; minimum daily mean, 0 mg/L Mar. 10, 11.
SEDIMENT DISCHARGE: Maximum daily, 1,400 tons (1,270 tonnes) Dec. 27; minimum daily, 0 ton (0 tonne) Mar. 10, 11.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), AUGUST TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
AUG			
21...	22	30	1.8
22...	44	139	27
23...	219	272	373
24...	32	20	1.7
25...	26	10	.70
26...	21	8	.45
27...	19	5	.26
28...	17	2	.09
29...	17	2	.09
30...	15	1	.04
31...	13	5	.18
SEP			
1...	13	18	.63
2...	12	26	.84
3...	12	45	1.5
4...	111	286	199
5...	73	124	38
6...	85	97	59
7...	78	123	48
8...	123	235	152
9...	1140	705	2390
10...	167	162	103
11...	64	30	5.2
12...	69	89	40
13...	46	23	4.0
14...	59	80	34
15...	85	138	83

MARIANA ISLANDS, ISLAND OF GUAM

16858000 YLIG RIVER NEAR YONA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	364	391	485	26	20	1.4	16	8	.35
2	218	163	188	22	15	.89	17	10	.46
3	101	82	32	19	6	.31	14	5	.19
4	97	96	47	18	5	.24	13	4	.14
5	47	35	4.4	21	10	.57	13	4	.14
6	94	81	29	16	3	.13	12	4	.13
7	149	153	112	19	6	.31	11	4	.12
8	134	116	105	18	8	.39	10	2	.05
9	48	11	1.4	18	8	.39	10	2	.05
10	47	12	1.5	16	5	.22	10	2	.05
11	35	5	.47	16	5	.22	9.6	2	.05
12	32	3	.26	15	3	.12	9.2	2	.05
13	28	2	.15	14	3	.11	9.3	1	.03
14	27	2	.15	13	2	.07	8.7	1	.02
15	25	2	.14	34	23	9.0	8.2	1	.02
16	25	2	.14	68	84	28	8.0	1	.02
17	22	2	.12	17	20	.92	75	61	42
18	32	9	.77	19	18	.92	45	25	3.0
19	23	10	.62	16	15	.65	13	15	.53
20	21	5	.28	14	10	.38	15	11	.45
21	21	5	.28	19	15	.77	19	12	.62
22	18	4	.19	22	15	.89	22	18	1.1
23	17	3	.14	96	95	51	12	11	.36
24	16	2	.09	17	15	.69	11	8	.24
25	25	13	.88	15	4	.16	9.4	7	.18
26	21	10	.57	14	3	.11	9.1	8	.20
27	23	15	.93	13	4	.14	515	462	1400
28	17	8	.37	13	3	.11	50	90	12
29	15	5	.20	38	45	4.6	22	22	1.3
30	17	7	.32	20	15	.81	18	12	.58
31	240	176	190	---	---	---	15	5	.20
TOTAL	1999	---	1202.37	686	---	104.52	1029.5	---	1464.63
		JANUARY			FEBRUARY			MARCH	
1	14	4	.15	11	10	.30	3.6	3	.03
2	13	3	.11	9.7	8	.21	3.8	5	.05
3	12	3	.10	8.6	5	.12	3.4	2	.02
4	11	3	.09	7.8	3	.06	3.1	2	.02
5	11	3	.09	7.0	2	.04	4.5	4	.05
6	9.4	3	.08	6.6	3	.05	3.6	2	.02
7	9.1	3	.07	6.6	3	.05	3.3	1	.00
8	8.8	4	.10	7.0	4	.08	3.8	3	.03
9	8.3	4	.09	6.3	4	.07	3.6	2	.02
10	7.8	4	.08	5.9	4	.06	3.3	0	.00
11	10	10	.27	5.9	5	.08	3.3	0	.00
12	7.6	8	.16	5.7	4	.06	4.1	3	.03
13	7.0	5	.09	5.3	4	.06	3.4	3	.03
14	6.6	3	.05	5.1	4	.06	3.1	3	.03
15	6.3	3	.05	4.9	5	.07	3.3	4	.04
16	6.1	3	.05	4.9	5	.07	2.9	3	.02
17	5.9	2	.03	4.7	5	.06	2.8	3	.02
18	5.9	2	.03	11	15	.45	2.7	3	.02
19	5.5	2	.03	5.5	5	.07	2.6	3	.02
20	7.3	3	.06	4.7	4	.05	2.8	3	.02
21	6.1	2	.03	4.3	3	.03	2.6	4	.03
22	5.5	2	.03	4.3	3	.03	2.6	4	.03
23	5.5	2	.03	4.0	3	.03	2.5	4	.03
24	5.1	2	.03	4.0	3	.03	2.4	3	.02
25	5.1	2	.03	3.6	3	.03	2.6	3	.02
26	7.3	5	.10	3.4	3	.03	2.5	3	.02
27	5.9	4	.06	3.8	2	.02	4.1	5	.06
28	6.8	5	.09	4.0	2	.02	2.6	4	.03
29	35	15	1.4	---	---	---	2.4	4	.03
30	48	49	15	---	---	---	2.4	3	.02
31	20	26	1.4	---	---	---	2.8	3	.02
TOTAL	322.9	---	19.98	165.6	---	2.29	96.5	---	0.78

MARIANA ISLANDS, ISLAND OF GUAM

16858000 YLIG RIVER NEAR YONA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	4.3	5	.06	3.5	5	.05	2.0	3	.02
2	3.2	4	.03	2.8	4	.03	1.9	2	.01
3	2.4	4	.03	2.7	4	.03	2.5	3	.02
4	2.4	4	.03	2.6	4	.03	2.9	3	.02
5	2.8	4	.03	2.8	4	.03	2.4	2	.01
6	2.1	4	.02	2.7	4	.03	2.6	3	.02
7	1.9	3	.02	2.9	5	.04	2.5	3	.02
8	1.7	4	.02	16	15	.65	2.2	3	.02
9	1.8	3	.01	7.9	12	.26	2.2	3	.02
10	1.9	2	34	4.6	10	.12	2.1	3	.02
11	1.6	2	.00	12	15	.49	15	50	2.0
12	2.0	5	.03	8.7	12	.28	9.9	20	.53
13	1.8	3	.01	8.9	10	.24	4.8	5	.06
14	1.4	3	.01	6.6	8	.14	4.7	5	.06
15	1.3	4	.01	6.8	6	.11	97	350	92
16	1.3	6	.02	5.7	4	.06	18	70	3.4
17	1.5	8	.03	6.3	5	.09	11	30	.89
18	73	117	23	4.3	3	.03	8.2	15	.33
19	17	60	2.8	4.0	3	.03	7.9	12	.26
20	11	30	.89	3.6	3	.03	6.9	10	.19
21	8.0	12	.26	3.4	3	.03	6.4	10	.17
22	5.7	6	.09	2.9	3	.02	5.4	8	.12
23	5.2	5	.07	2.8	3	.02	5.0	8	.11
24	4.5	4	.05	2.6	3	.02	4.7	8	.10
25	3.9	4	.04	2.5	3	.02	4.5	6	.07
26	3.8	5	.05	2.6	3	.02	4.9	8	.11
27	3.9	5	.05	2.5	3	.02	17	18	.83
28	3.7	5	.05	2.2	3	.02	11	15	.45
29	5.2	6	.08	2.2	3	.02	7.6	12	.25
30	4.1	5	.06	2.0	3	.02	8.0	10	.22
31	---	---	---	2.0	3	.02	---	---	---
TOTAL	184.4	---	61.85	143.1	---	3.00	281.2	---	102.33
		JULY			AUGUST			SEPTEMBER	
1	13			168	---	---	21	5	.28
2	49			69	---	---	19	4	.21
3	14			102	---	---	18	4	.19
4	11			37	20	2.0	17	4	.18
5	9.2			36	25	2.4	16	4	.17
6	13			28	15	1.1	15	3	.12
7	11			24	10	.65	14	3	.11
8	10			26	15	1.1	13	3	.11
9	8.5			400	241	543	13	3	.11
10	12			214	235	262	14	4	.15
11	38			55	150	22	12	3	.10
12	85			175	169	245	11	2	.06
13	36			193	148	76	11	2	.06
14	80			151	107	51	23	15	.93
15	27			451	215	423	12	8	.26
16	20			499	226	625	14	12	.45
17	41			261	200	141	15	12	.49
18	46			63	35	6.0	51	---	---
19	23			45	15	1.8	18	---	---
20	26			38	10	1.0	15	---	---
21	18			39	10	1.1	13	15	.53
22	15			37	8	.80	11	12	.36
23	13			31	8	.67	11	10	.30
24	13			25	5	.34	12	15	.49
25	13			22	4	.24	20	20	1.1
26	12			168	---	---	152	---	---
27	11			121	---	---	117	---	---
28	12			50	---	---	80	---	---
29	28			29	6	.47	25	---	---
30	272			25	5	.34	43	---	---
31	96			23	5	.31	---	---	---
TOTAL	1075.7			3605	---	2408.32	826	---	6.76

NOTE.--No sediment record July 1 to Aug. 3, 26-28, Sept. 18-20, 26-30.

MARIANA ISLANDS, ISLAND OF GUAM

16865000 PAGO RIVER NEAR ORDOT
(National stream-quality accounting network station)

LOCATION.--Lat 13°26'08" N., long 144°45'14" E., Hydrologic Unit 20100003, on left bank 0.8 mi (1.3 km) south of Ordot, 2.6 mi (4.2 km) south of Agana, and 3.6 mi (5.8 km) southeast of Asan.

DRAINAGE AREA.--5.67 mi² (14.69 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1951 to current year.

REVISED RECORDS.--WSP 1937: 1954(M), 1958(M). WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 25 ft (7.6 m), from topographic map. Prior to Apr. 10, 1972, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. No diversion above station.

AVERAGE DISCHARGE.--30 years, 26.3 ft³/s (0.745 m³/s), 19,050 acre-ft/yr (23.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,090 ft³/s (286 m³/s) May 21, 1976, gage height, 20.15 ft (6.142 m), from floodmarks, from rating curve extended above 320 ft³/s (9.06 m³/s) on basis of slope-area measurements at gage heights 13.22 ft (4.029 m), 15.07 ft (4.593 m), and 18.87 ft (5.752 m); no flow for many days in 1959 and 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,700 ft³/s (76.5 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 9	2230	*3060	86.7	*12.50	3.810
Aug. 15	1415	2910	82.4	12.09	3.685

Minimum daily discharge, about 0.88 ft³/s (0.025 m³/s) Apr. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	409	23	13	12	10	3.5	1.8	1.9	2.4	16	237	15
2	225	17	13	11	8.2	3.2	1.6	1.9	1.9	58	92	14
3	93	14	11	9.7	7.3	3.0	1.3	1.9	2.5	14	80	12
4	60	13	9.9	9.2	6.5	2.9	1.2	1.8	2.3	10	41	11
5	41	13	9.3	8.7	5.9	2.9	1.1	1.8	1.9	8.9	67	11
6	79	11	9.5	8.3	5.6	2.7	1.1	1.8	1.7	7.5	34	10
7	169	15	8.5	7.8	5.4	2.7	1.1	1.8	1.9	10	25	9.3
8	139	24	7.8	7.1	5.9	3.5	1.3	12	1.9	10	21	8.4
9	94	14	8.3	6.7	5.0	3.1	1.1	3.8	1.6	7.5	443	11
10	42	13	8.2	6.4	4.7	2.9	1.1	2.9	1.6	8.4	155	8.8
11	31	12	7.0	7.2	5.0	2.7	1.1	29	18	24	67	9.1
12	26	11	6.6	6.3	4.7	2.5	1.1	8.6	8.1	138	187	7.7
13	23	13	6.5	5.7	4.3	2.5	1.1	7.6	3.5	40	203	7.6
14	21	9.5	6.3	5.6	4.1	2.3	.98	6.2	2.8	44	148	21
15	19	35	6.6	5.3	3.9	2.1	.98	4.4	81	29	569	8.5
16	35	61	5.9	5.0	3.9	1.9	.98	3.7	8.3	21	499	9.1
17	17	14	90	4.7	3.9	1.8	.88	3.5	5.4	38	282	63
18	28	19	28	4.7	5.9	1.8	40	3.1	4.1	36	73	117
19	17	14	10	4.5	4.0	1.6	13	3.0	3.7	24	47	86
20	15	13	25	5.6	3.7	1.6	6.9	3.0	3.3	22	40	23
21	14	32	47	5.2	3.6	1.5	4.7	2.9	3.3	17	33	15
22	12	25	24	4.4	3.5	1.5	3.4	2.7	3.1	14	27	12
23	11	115	13	4.4	3.5	1.5	3.1	2.9	2.5	12	24	11
24	11	19	11	4.4	3.6	1.5	2.8	2.7	2.5	11	19	9.6
25	11	14	9.4	4.5	3.4	1.6	2.5	2.5	2.5	14	18	29
26	14	12	8.7	5.4	3.4	1.5	2.3	2.5	3.1	10	106	331
27	17	11	350	4.1	3.5	1.8	2.2	2.6	42	9.4	101	160
28	13	9.9	75	5.9	3.7	1.3	2.1	2.5	12	9.4	42	125
29	10	23	20	38	---	1.5	2.1	2.5	7.0	41	24	34
30	14	17	16	47	---	1.3	2.0	2.5	10	359	20	26
31	193	---	13	19	---	1.5	---	2.5	---	147	17	---
TOTAL	1863	636.4	877.5	283.8	136.1	67.7	106.92	132.5	245.9	1210.1	3741	1215.1
MEAN	60.1	21.2	28.3	9.15	4.86	2.18	3.56	4.27	8.20	39.0	121	40.5
MAX	409	115	350	47	10	3.5	40	29	81	359	569	331
MIN	10	9.5	5.9	4.1	3.4	1.3	.88	1.8	1.6	7.5	17	7.6
AC-FT	3700	1260	1740	563	270	134	212	263	488	2400	7420	2410

CAL YR 1980 TOTAL 14135.8 MEAN 38.6 MAX 1640 MIN 1.5 AC-FT 28040
WTR YR 1981 TOTAL 10516.02 MEAN 28.8 MAX 569 MIN .88 AC-FT 20860

MARIANA ISLANDS, ISLAND OF GUAM

16865000 PAGO RIVER NEAR ORDOT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
NOV										
25...	1000	14	327	7.6	26.0	1.2	6.5	71	620	140
JAN										
19...	1030	4.6	380	8.2	25.5	.40	6.8	14	720	160
MAR										
05...	0930	3.1	360	8.0	--	.80	--	--	--	160
MAY										
06...	1000	.44	370	--	26.0	.60	8.5	11	99	160
JUL										
22...	1000	15	322	7.8	27.0	1.6	7.5	--	--	130
SEP										
03...	0845	12	360	8.0	27.0	1.2	7.3	--	--	140
28...	1300	--	--	--	--	--	--	220	610	--

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV									
25...	.00	42	8.3	17	21	.6	1.9	150	.2
JAN									
19...	.00	47	9.5	21	22	.7	1.8	170	1.6
MAR									
05...	.00	48	9.0	19	21	.7	1.6	170	1.8
MAY									
06...	.00	48	8.6	18	20	.6	1.6	160	.8
JUL									
22...	.00	38	8.0	16	21	.7	1.8	150	<5.0
SEP									
03...	.00	43	9.1	18	21	.7	2.1	160	<5.0
28...	--	--	--	--	--	--	--	--	--

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV										
25...	13	.1	34	206	207	.28	.21	.16	.020	.020
JAN										
19...	17	.1	38	227	238	.31	.09	.06	.000	.000
MAR										
05...	15	.1	35	222	264	.30	.00	--	.000	.000
MAY										
06...	23	.1	36	223	232	.30	.07	.03	.030	.030
JUL										
22...	13	.1	36	206	--	.28	.14	.09	.270	.130
SEP										
03...	13	.1	39	227	225	.31	.28	.15	.150	.140
28...	--	--	--	--	--	--	--	--	--	--

< Actual value is known to be less than the value shown.

MARIANA ISLANDS, ISLAND OF GUAM

16865000 PAGO RIVER NEAR ORDOT--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
NOV									
25...	.38	.38	.56	.40	.00	.40	.61	.030	.020
JAN									
19...	.45	.43	.49	.45	.02	.43	.54	.010	.010
MAR									
05...	1.3	1.3	--	1.30	.00	1.3	1.3	.020	.030
MAY									
06...	.48	.43	.49	.51	.05	.46	.58	.030	.020
JUL									
22...	.38	.31	.53	.65	.21	.44	.79	.010	.010
SEP									
03...	.44	.46	.75	.59	.00	.60	.87	.020	.020
28...	--	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS-PENDED TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
JAN											
19...	1030	1	0	1	10	0	10	0	--	<1	0
MAR											
05...	0930	2	0	2	10	0	10	2	0	2	20
JUL											
22...	1000	1	0	1	100	90	7	1	--	<1	10
SEP											
03...	0845	1	0	1	<100	--	15	0	--	<1	10

DATE	CHRO-MIUM, SUS-PENDED RECOV. (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, SUS-PENDED RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
JAN											
19...	0	0	<3	<3	4	0	4	140	100	40	9
MAR											
05...	10	10	2	<3	2	0	3	140	30	110	8
JUL											
22...	10	0	<3	<3	3	0	3	330	--	<10	0
SEP											
03...	0	10	0	0	3	1	2	200	50	150	2

DATE	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY SUS-PENDED RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, SUS-PENDED RECOV-ERABLE (UG/L AS NI)
JAN										
19...	7	2	50	10	40	.0	.0	.0	8	6
MAR										
05...	8	0	70	0	70	.0	.0	.0	1	0
JUL										
22...	0	2	40	--	<1	.2	.2	.0	3	0
SEP										
03...	0	2	30	2	28	.1	.1	.0	1	0

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, SUS-PENDED RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 19...	2	0	0	0	0	0	0	40	0	40
MAR 05...	1	0	0	0	0	0	0	30	0	30
JUL 22...	--	0	0	0	0	0	0	40	30	8
SEP 03...	2	0	0	0	0	0	0	20	5	15

DATE	TIME	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
NOV 25...	1000	2.3	--	--
JAN 19...	1030	--	6.1	.1
MAR 05...	0930	--	8.1	.5
MAY 06...	1000	2.0	--	--
JUL 22...	1000	--	3.2	.1
SEP 03...	0845	--	1.2	<.1

DATE	TIME	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
NOV 25...	1000	26
JAN 19...	1030	13
MAR 05...	0930	26
MAY 06...	1000	77
JUL 22...	1000	1800

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 25...	1000	14	6	.23	100
JAN 19...	1030	4.6	3	.04	100
MAY 06...	1000	.44	36	.04	100
JUL 22...	1045	--	6	--	100
SEP 03...	0915	--	6	--	100

< Actual value is known to be less than the value shown.

MARIANA ISLANDS, ISLAND OF GUAM

16865000 PAGO RIVER NEAR ORDOT

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO JULY 1981

DATE	NOV 25,80	JAN 19,81	MAR 5,81	MAY 6,81	JUL 22,81
TIME	1000	1030	0930	1000	1000
TOTAL CELLS/ML	26	13	26	77	1800
DIVERSITY: DIVISION	1.0	0.0	0.0	1.6	0.1
. CLASS	1.0	0.0	0.0	1.6	0.1
.. ORDER	1.0	0.0	0.0	1.6	0.3
... FAMILY	1.0	0.0	0.0	1.6	0.3
.... GENUS	1.0	0.0	0.0	1.6	0.3

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHRYSOPHYTA										
. BACILLARIOPHYCEAE										
.. PENNALES										
... FRAGILARIACEAE										
.... SYNEDRA	--	-	--	-	--	-	--	-	14	1
... GOMPHONEMATACEAE										
.... GOMPHONEMA	--	-	13#	100	--	-	--	-	--	-
... NAVICULACEAE										
.... NAVICULA	13#	50	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
. CRYPTOPHYCEAE										
.. CRYPTOMONADALES										
... CRYPTOMONADACEAE										
.... CRYPTOMONAS	13#	50	--	-	--	-	26#	33	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
. CYANOPHYCEAE										
.. CHROOCOCCALES										
... CHROOCOCCACEAE										
.... AGMENELLUM	--	-	--	-	--	-	--	-	55	3
.... ANACYSTIS	--	-	--	-	26#	100	26#	33	--	-
.. HORMOGONALES										
... OSCILLATORIACEAE										
.... OSCILLATORIA	--	-	--	-	--	-	--	-	1700#	96
PYRRHOPHYTA (FIRE ALGAE)										
. DINOPHYCEAE										
.. PERIDINIALES										
... GLENODINIACEAE										
.... GLENODINIUM	--	-	--	-	--	-	26#	33	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

CAROLINE ISLANDS, PALAU ISLANDS

16890600 DIONGRADID RIVER, BABELTHUAP
(Formerly published as Adeiddo River, Babelthuap)

LOCATION (REVISED).--Lat 07°36'04" N., long 134°35'02" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) upstream from left-bank tributary, 0.9 mi (1.5 km) southeast of Ngetbong village school, and 2.4 mi (3.8 km) upstream from confluence with Ngerchetang.

DRAINAGE AREA.--4.45 mi² (11.53 km²) revised.

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR HI-75-1: 1970(M), 1972-73(P).

GAGE.--Water-stage recorder. Altitude of gage is 15 ft (4.6 km), from topographic map.

REMARKS.--Records fair. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years, 33.6 ft³/s (0.952 m³/s), 24,340 acre-ft/yr (30.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft³/s (65.4 m³/s) Jan. 22, 1975, gage height, 15.44 ft (4.706 m), from rating curve extended above 410 ft³/s (11.6 m³/s) on basis of field estimate at gage height 15.44 ft (4.706 m); minimum, 2.7 ft³/s (0.076 m³/s) Mar. 24, 25, 31, Apr. 1, 1973, Apr. 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 26	1800	884	25.0	8.72	2.658	Feb. 12	1630	1360	38.5	11.11	3.386
Dec. 27	2100	1430	40.5	11.47	3.496	Feb. 13	0430	950	26.9	9.05	2.758
Jan. 15	0100	*1700	48.1	*12.78	3.895	July 28	0930	1410	39.9	11.32	3.450
Jan. 23	1430	1170	33.1	10.13	3.088						

Minimum discharge, 4.8 ft³/s (0.136 m³/s) May 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	23	11	69	34	21	8.4	4.8	10	27	115	21
2	44	22	11	56	33	21	8.0	9.2	11	135	110	16
3	39	21	28	51	75	18	7.8	9.2	12	55	89	16
4	34	20	18	51	57	16	7.5	8.8	12	53	76	15
5	32	21	70	40	94	15	7.5	11	23	62	142	14
6	31	20	26	36	97	24	7.3	8.4	64	51	103	14
7	29	19	52	34	55	19	7.5	6.7	29	43	82	14
8	27	17	26	37	50	16	7.5	6.1	19	39	70	14
9	27	18	21	34	46	14	7.3	6.1	60	38	61	13
10	25	20	19	60	40	16	6.9	28	35	41	61	13
11	22	18	19	40	153	13	7.5	11	43	35	61	12
12	23	15	22	34	382	19	8.8	7.3	38	78	48	12
13	25	16	37	36	361	22	8.0	8.2	43	69	38	15
14	20	15	82	53	144	14	6.9	9.7	153	61	36	15
15	22	15	41	218	103	12	6.5	9.2	162	50	34	14
16	22	17	36	46	82	12	6.3	8.2	93	44	33	16
17	26	14	31	49	71	11	9.7	8.6	88	45	29	18
18	20	13	29	40	59	11	7.5	15	70	48	27	16
19	18	13	27	40	53	11	6.5	9.7	58	48	25	22
20	19	12	70	36	50	11	6.1	12	53	38	23	23
21	18	12	36	41	44	11	5.9	11	45	34	22	16
22	16	12	43	45	48	11	5.8	11	40	32	27	30
23	34	17	99	142	38	10	5.6	9.7	40	30	22	21
24	23	13	62	75	43	9.9	6.3	8.8	32	31	20	16
25	18	14	49	47	36	11	5.6	8.6	30	47	19	15
26	140	15	46	43	30	12	5.4	9.2	30	52	24	14
27	51	12	234	53	27	9.9	5.4	9.7	25	108	32	35
28	34	11	125	58	24	9.5	5.4	19	25	663	26	64
29	28	10	74	44	---	9.7	5.2	20	45	202	32	40
30	25	12	63	38	---	12	5.0	11	28	147	25	28
31	25	---	99	36	---	9.0	---	11	---	114	22	---
TOTAL	971	477	1606	1682	2329	431.0	205.1	326.2	1416	2520	1534	592
MEAN	31.3	15.9	51.8	54.3	83.2	13.9	6.84	10.5	47.2	81.3	49.5	19.7
MAX	140	23	234	218	382	24	9.7	28	162	663	142	64
MIN	16	10	11	34	24	9.0	5.0	4.8	10	27	19	12
AC-FT	1930	946	3190	3340	4620	855	407	647	2810	5000	3040	1170

CAL YR 1980 TOTAL 12039.9 MEAN 32.9 MAX 405 MIN 8.0 AC-FT 23880
WTR YR 1981 TOTAL 14089.3 MEAN 38.6 MAX 663 MIN 4.8 AC-FT 27950

CAROLINE ISLANDS, PALAU ISLANDS

16890900 TABECHEDING RIVER, BABELTHUAP
(Formerly published as Tabagaten River, Babelthuap)

LOCATION (REVISED).--Lat 07°27'03" N., long 134°31'29" E., Hydrologic Unit 20100006, on left bank 0.2 mi (0.3 km) downstream from waterfall, 1.5 mi (2.4 km) upstream from boat landing, and 1.6 mi (2.6 km) east of forestry station.

DRAINAGE AREA.--6.07 mi^2 (15.72 km^2) revised.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6.1 m), from topographic map.

REMARKS.--Records good except those above 500 ft^3/s (14.2 m^3/s), which are poor. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 49.5 ft^3/s (1.402 m^3/s), 35,860 acre-ft/yr (44.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,580 ft^3/s (101 m^3/s) Dec. 23, 1973, gage height, 8.79 ft (2.679 m), from rating curve extended above 290 ft^3/s (8.21 m^3/s); minimum, 0.80 ft^3/s (0.023 m^3/s) Mar. 23, 24, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft^3/s (25.5 m^3/s), and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 26	1930	1120	31.7	6.44	1.963	July 2	0500	1130	32.0	6.46	1.969
Jan. 15	0330	918	26.0	6.02	1.835	July 28	0800	1920	54.4	7.52	2.292
Feb. 13	0200	1280	36.2	6.73	2.051	Aug. 5	1730	*1930	54.7	*7.53	2.295

Minimum discharge, 3.4 ft^3/s (0.10 m^3/s) May 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	52	25	100	30	20	7.3	3.4	29	65	175	17
2	73	45	33	82	33	24	6.8	8.4	38	389	128	12
3	57	40	140	62	54	22	6.2	10	49	187	88	12
4	46	37	60	61	56	18	6.0	108	34	167	68	11
5	40	34	116	59	70	19	5.8	41	70	186	326	10
6	37	31	53	46	146	16	5.5	22	91	157	200	11
7	34	39	80	42	51	15	5.5	13	54	110	116	17
8	31	29	52	47	43	15	6.0	10	40	84	83	18
9	29	29	57	40	40	14	5.5	10	246	68	64	15
10	27	27	43	213	34	14	5.2	11	105	62	78	24
11	25	27	61	65	196	13	5.5	10	89	53	91	14
12	66	29	45	50	502	12	15	11	293	176	55	12
13	38	27	100	43	328	27	8.2	31	125	68	45	13
14	29	24	195	53	181	13	5.8	18	262	53	39	36
15	25	22	80	243	108	13	5.0	45	299	46	36	29
16	23	32	65	62	77	11	4.8	27	206	40	32	26
17	25	57	51	56	72	9.7	4.5	25	162	42	29	76
18	26	31	44	64	51	9.4	4.5	17	115	37	27	44
19	28	24	40	48	45	8.8	4.4	16	86	33	25	31
20	24	28	59	43	39	12	4.4	40	71	30	24	25
21	22	21	38	39	35	8.8	4.4	22	75	27	23	43
22	20	22	90	50	36	8.5	4.4	26	54	25	20	96
23	115	66	71	39	31	8.2	4.0	35	191	25	19	50
24	82	38	149	43	28	7.6	5.2	24	89	28	18	35
25	42	28	64	34	26	7.6	5.5	19	68	46	16	28
26	329	51	55	62	23	12	4.0	18	102	36	32	25
27	140	27	122	36	23	8.8	3.8	21	60	95	20	178
28	75	32	113	53	20	7.3	3.6	106	51	654	18	145
29	130	34	72	60	---	8.9	3.9	77	143	170	16	90
30	60	30	51	37	---	20	3.6	39	62	150	14	58
31	119	---	208	32	---	9.4	---	36	---	116	16	---
TOTAL	1912	1013	2432	1964	2378	413.0	164.3	899.8	3359	3425	1941	1201
MEAN	61.7	33.8	78.5	63.4	84.9	13.3	5.48	29.0	112	110	62.6	40.0
MAX	329	66	208	243	502	27	15	108	299	654	326	178
MIN	20	21	25	32	20	7.3	3.6	3.4	29	25	14	10
AC-FT	3790	2010	4820	3900	4720	819	326	1780	6660	6790	3850	2380

CAL YR 1980 TOTAL 18888.5 MEAN 51.6 MAX 636 MIN 9.1 AC-FT 37470
WTR YR 1981 TOTAL 21102.1 MEAN 57.8 MAX 654 MIN 3.4 AC-FT 41860

CAROLINE ISLANDS, PALAU ISLANDS

16891300 BDENG RIVER, BABELTHUAP
(Formerly published as Gaden River, Babelthuap)

LOCATION (REVISED).--Lat 07°23'00" N., long 134°33'07" E., Hydrologic Unit 20100006, on left bank 1,000 ft (305 m) upstream from confluence with Kumekumeyel River, 0.7 mi (1.1 km) north of Palau Mission Academy, and 1.5 mi (2.4 km) northeast of airport terminal.

DRAINAGE AREA.--4.26 mi² (11.03 km²) revised.

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR HI-79-2: 1970-78(P).

GAGE.--Water-stage recorder. Altitude of zero of gage is 2 ft (0.6 m), from stadia survey. Prior to Dec. 9, 1974, at site 300 ft (91 m) downstream at datum 0.30 ft (0.09 m) lower.

REMARKS.--Records good. Small amount of water is pumped from site 300 ft (91 m) upstream from station for irrigation 0.5 mi (0.8 km) downstream. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report. Continuous record of rainfall is obtained near station.

AVERAGE DISCHARGE.--12 years, 32.6 ft³/s (0.923 m³/s), 23,620 acre-ft/yr (29.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft³/s (52.4 m³/s) Apr. 13, 1979, gage height, 18.2 ft (5.54 m), from rating curve extended above 118 ft³/s (3.34 m³/s) on basis of measurement at gage height 13.0 ft (3.962 m); minimum, 1.6 ft³/s (0.045 m³/s) Mar. 23, 24, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22.7 m³/s), and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 31	0400	1180	33.4	13.75	4.191	July 2	0400	1010	28.6	12.57	3.831
Feb. 13	0100	1010	28.6	12.58	3.834	July 28	0700	*1300	36.8	*14.55	4.435

Minimum discharge, 3.5 ft³/s (0.099 m³/s) Apr. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	37	14	73	17	17	6.4	3.6	14	73	108	13
2	42	32	18	52	28	24	6.2	4.7	32	300	86	10
3	30	29	61	39	20	22	6.0	4.7	24	102	62	9.5
4	26	27	27	67	25	16	5.8	18	17	92	50	9.0
5	24	26	92	72	40	15	5.8	11	19	125	131	8.8
6	22	24	34	42	55	14	5.6	7.8	33	101	110	9.0
7	20	36	26	45	28	13	5.6	5.0	18	75	72	9.0
8	19	22	24	41	25	16	5.6	4.3	15	58	56	9.0
9	18	22	24	37	30	12	5.6	4.0	101	50	46	8.8
10	18	24	20	144	23	11	5.4	4.2	40	47	56	19
11	17	22	20	52	159	10	5.6	4.0	45	42	74	8.8
12	35	21	20	42	365	10	12	6.7	206	79	46	8.3
13	20	19	63	37	340	28	6.0	17	63	43	38	8.3
14	17	17	89	40	115	11	5.0	7.9	126	36	33	14
15	17	16	36	127	76	9.8	4.7	15	127	32	30	23
16	15	15	32	41	56	9.0	4.7	11	112	28	27	27
17	40	61	26	38	59	8.5	4.7	46	88	29	25	26
18	28	21	24	39	41	8.0	4.7	14	64	26	23	21
19	24	17	21	33	36	7.8	4.7	9.5	57	23	21	15
20	19	22	23	29	32	8.0	4.3	26	46	21	21	13
21	17	15	19	27	28	7.2	4.3	12	60	20	20	20
22	15	14	18	28	28	7.2	4.3	13	41	19	18	41
23	105	29	29	26	24	7.2	4.0	21	78	18	17	24
24	52	22	24	30	24	6.8	4.7	12	46	25	16	17
25	31	17	18	32	21	7.2	4.3	9.5	39	37	15	14
26	194	24	26	21	19	9.2	3.8	8.3	66	26	18	13
27	90	16	64	20	18	7.5	3.8	10	40	50	15	107
28	56	22	44	30	17	6.8	3.8	36	35	513	14	81
29	81	18	28	25	---	14	4.0	33	86	117	12	52
30	43	16	22	20	---	13	3.8	19	64	97	12	40
31	64	---	254	18	---	7.0	---	18	---	75	12	---
TOTAL	1261	703	1240	1357	1749	363.2	155.2	416.2	1802	2379	1284	678.5
MEAN	40.7	23.4	40.0	43.8	62.5	11.7	5.17	13.4	60.1	76.7	41.4	22.6
MAX	194	61	254	144	365	28	12	46	206	513	131	107
MIN	15	14	14	18	17	6.8	3.8	3.6	14	18	12	8.3
AC-FT	2500	1390	2460	2690	3470	720	308	826	3570	4720	2550	1350

CAL YR 1980 TOTAL 10981.2 MEAN 30.0 MAX 462 MIN 9.6 AC-FT 21780
WTR YR 1981 TOTAL 13388.1 MEAN 36.7 MAX 513 MIN 3.6 AC-FT 26560

CAROLINE ISLANDS, PALAU ISLANDS

16891310 KMEKUMEL RIVER, BABELTHUAP
(Formerly published as Kumekumeyel River, Babelthuap)

LOCATION (REVISED).--Lat 07°23'14" N., long 134°32'42" E., Hydrologic Unit 20100006, 0.5 mi (0.8 km) upstream from confluence with Bdeng River and 1.1 mi (1.8 km) north of Palau Mission Academy.

DRAINAGE AREA.--1.44 mi² (3.73 km²) revised.

PERIOD OF RECORD.--September 1978 to current year. Low-flow partial-record station operated "at mouth" 1970-78.

GAGE.--Water-stage recorder. Altitude of gage is 96.44 ft (29.39 m), from stadia survey.

REMARKS.--Records good. No diversion above gage. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft³/s (44.2 m³/s) Apr. 13, 1979, gage height, 10.53 ft (3.210 m), from rating curve extended above 106 ft³/s (3.00 m³/s) on basis of slope-area measurement at gage height 10.53 ft (3.210 m); minimum, 0.78 ft³/s (0.022 m³/s) Apr. 27 to May 3, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft³/s (99.1 m³/s) and maximum (*), from rating curve as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 31	0330	*1020	28.9	*8.82	2.688	June 12	0500	a400	11.3	a6.00	1.829
Feb. 11	2030	448	12.7	6.29	1.917	July 2	0300	481	13.6	6.47	1.972
Feb. 13	0200	473	13.4	6.43	1.960	July 28	0400	799	22.6	7.98	2.432

Minimum discharge, 0.78 ft³/s (0.022 m³/s) Apr. 27 to May 3.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	8.6	3.2	23	4.4	3.9	1.4	.78	3.2	14	29	2.7
2	16	7.5	3.8	17	8.0	6.2	1.3	.78	6.5	71	23	2.4
3	11	6.6	17	12	5.7	5.3	1.3	.94	4.1	22	17	2.2
4	9.1	6.0	8.0	21	6.6	3.5	1.3	3.3	3.9	19	13	2.2
5	8.0	5.6	29	18	12	2.8	1.3	2.2	4.3	28	29	2.0
6	7.3	5.4	9.8	12	16	2.8	1.2	1.3	4.8	28	28	2.0
7	6.6	6.5	7.5	14	8.0	2.6	1.2	1.1	3.4	20	18	2.3
8	6.4	4.8	6.4	12	6.4	3.1	1.2	.94	2.8	16	14	2.1
9	6.0	5.0	5.8	11	8.8	2.6	1.3	.94	29	13	11	1.8
10	5.4	5.7	5.2	48	5.4	2.6	1.2	1.0	10	12	11	4.4
11	5.2	4.8	5.4	17	41	2.6	1.3	.86	14	10	17	1.8
12	9.2	4.6	4.6	13	100	2.6	2.8	1.0	64	16	10	2.9
13	6.0	4.1	19	11	100	7.2	1.3	6.1	18	9.6	8.6	2.1
14	4.8	4.4	24	11	27	3.2	1.2	2.2	47	8.4	7.5	4.7
15	4.6	3.7	10	35	18	2.8	1.1	2.4	43	7.3	6.8	7.8
16	4.1	3.7	12	11	14	2.8	1.1	1.6	38	6.4	6.2	8.8
17	10	19	8.2	9.8	15	2.8	1.0	15	26	7.3	5.6	14
18	7.3	6.0	6.8	11	10	2.8	1.0	3.4	19	7.4	5.2	8.5
19	7.5	4.8	6.2	9.4	8.6	2.7	1.0	2.1	15	5.8	4.6	5.2
20	6.4	5.0	5.6	8.2	7.5	2.7	.94	5.6	13	5.0	5.3	4.3
21	5.0	3.7	5.2	7.5	6.8	2.4	.94	2.8	12	4.4	4.4	9.7
22	4.3	4.4	5.0	7.5	6.8	2.2	.94	2.8	9.6	4.3	4.1	20
23	29	5.3	7.1	6.4	6.0	2.2	.86	6.0	13	4.1	3.7	10
24	12	4.3	6.4	8.0	6.4	2.2	1.2	2.8	8.9	8.6	3.5	7.3
25	8.4	4.2	4.6	5.8	5.2	2.4	1.0	2.2	8.2	10	3.4	6.0
26	61	5.8	6.8	5.4	4.8	2.2	.94	2.0	11	5.4	4.8	5.4
27	25	3.9	16	5.2	4.4	2.1	.86	3.2	7.5	11	3.5	31
28	16	4.6	12	8.9	4.1	1.6	.78	7.4	6.8	186	3.2	27
29	17	4.1	9.6	6.8	---	4.4	.86	6.1	17	32	3.0	17
30	10	4.1	6.4	5.0	---	3.2	.78	5.6	6.9	26	2.7	13
31	13	---	86	4.4	---	1.8	---	4.1	---	20	2.8	---
TOTAL	361.6	166.2	362.6	395.3	466.9	94.3	34.60	98.54	469.9	638.0	308.9	230.6
MEAN	11.7	5.54	11.7	12.8	16.7	3.04	1.15	3.18	15.7	20.6	9.96	7.69
MAX	61	19	86	48	100	7.2	2.8	15	64	186	29	31
MIN	4.1	3.7	3.2	4.4	4.1	1.6	.78	.78	2.8	4.1	2.7	1.8
AC-FT	717	330	719	784	926	187	69	195	932	1270	613	457

CAL YR 1980 TOTAL 3368.90 MEAN 9.20 MAX 163 MIN 2.2 AC-FT 6680
WTR YR 1981 TOTAL 3627.44 MEAN 9.94 MAX 186 MIN .78 AC-FT 7200

CAROLINE ISLANDS, PALAU ISLANDS

16891400 SOUTH FORK NGERDORCH RIVER, BABELTHUAP
(Formerly published as South Fork Ngardok River, Babelthuap)

LOCATION (REVISED).--Lat 07°26'19" N., long 134°34'28" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) from left-bank tributary, 1.3 mi (2.1 km) west of Rrai village, and 1.5 mi (2.4 km) upstream from confluence with North Fork Ngerdorch River.

DRAINAGE AREA.--2.44 mi^2 (6.32 km^2) revised.

PERIOD OF RECORD.--March 1971 to current year.

REVISED RECORDS.--WDR HI-75-1: 1971(M), 1972, 1973(P), 1974.

GAGE.--Water-stage recorder. Altitude of gage is 65 ft (20 m), from topographic map.

REMARKS.--Records good. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 19.9 ft^3/s (0.564 m^3/s), 14,420 acre-ft/yr (17.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft^3/s (163 m^3/s), Dec. 13, 1974, gage height, 9.19 ft (2.801 m), from rating curve extended above 65 ft^3/s (1.84 m^3/s) on basis of field estimate at gage height 7.57 ft (2.307 m); minimum, 0.55 ft^3/s (0.016 m^3/s) Mar. 9, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft^3/s (21.2 m^3/s), and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 26	1900	1340	37.9	4.93	1.503	July 2	a0500	a900	25.5	-	-
Dec. 13	2230	1110	31.4	4.58	1.396	July 12	0700	1840	52.1	5.60	1.707
Jan. 15	0330	928	26.3	4.28	1.305	July 28	0800	*2160	61.2	*5.99	1.826
Feb. 11	2030	1040	29.5	4.47	1.362	Aug. 5	1700	2100	59.5	5.92	1.804
Feb. 13	0130	1320	37.4	4.90	1.494						

Minimum discharge, 1.2 ft^3/s (0.034 m^3/s) May 1, 2.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	16	6.2	29	10	8.0	3.2	1.5	16	24	78	5.7
2	25	14	7.4	20	15	10	2.9	3.2	25	170	47	4.0
3	20	12	45	17	26	8.0	2.9	4.0	20	66	32	4.0
4	16	12	17	16	22	7.4	2.9	20	17	67	25	3.6
5	14	11	78	26	46	6.8	2.9	19	37	95	201	3.6
6	13	9.3	20	15	75	6.2	2.9	6.8	39	52	82	4.0
7	12	15	15	14	23	6.2	2.9	4.4	20	36	41	4.4
8	11	9.3	24	16	18	6.8	2.9	3.6	16	28	29	4.0
9	10	8.7	16	14	20	5.2	2.6	3.6	97	23	23	3.6
10	9.3	8.7	13	84	14	5.2	2.3	3.6	34	21	38	7.8
11	8.7	8.7	16	23	133	4.8	2.9	4.8	29	22	39	3.6
12	16	8.0	15	18	349	4.8	7.4	12	134	140	22	3.2
13	10	8.0	86	16	303	22	2.9	20	44	29	18	3.2
14	8.7	6.8	83	23	71	6.2	2.3	9.8	124	22	16	9.4
15	8.7	6.2	30	139	42	5.2	2.3	29	128	18	14	11
16	7.4	6.2	22	23	30	4.8	2.3	14	86	16	12	12
17	7.7	16	18	20	27	4.8	2.6	12	57	21	11	10
18	12	8.0	16	23	20	4.4	2.6	7.4	40	15	9.9	9.9
19	9.3	6.8	14	18	18	4.0	2.6	5.2	33	12	9.3	6.2
20	7.4	12	19	15	16	4.0	2.3	14	26	12	8.7	5.2
21	6.2	6.2	12	14	14	4.0	2.3	7.4	29	10	8.0	8.1
22	5.7	5.7	12	18	14	4.0	2.0	8.0	20	9.9	7.4	23
23	63	23	14	14	12	4.0	2.0	14	80	9.3	6.8	12
24	27	10	12	18	10	3.6	2.3	9.3	33	9.9	6.2	8.0
25	14	9.5	10	12	9.3	3.6	2.0	6.2	24	17	5.7	6.2
26	167	14	12	12	8.7	4.8	1.8	5.7	33	14	9.8	5.7
27	42	8.7	37	11	8.0	3.6	1.5	6.8	21	22	6.8	81
28	23	9.3	28	29	7.4	3.2	2.0	56	19	438	5.7	59
29	59	9.9	15	22	---	5.5	2.0	29	72	57	5.2	28
30	20	7.4	12	14	---	6.2	1.8	18	25	50	4.4	20
31	23	---	81	12	---	3.6	---	17	---	40	6.8	---
TOTAL	722.1	306.4	805.6	745	1361.4	180.9	78.3	375.3	1378	1566.1	828.7	369.4
MEAN	23.3	10.2	26.0	24.0	48.6	5.84	2.61	12.1	45.9	50.5	26.7	12.3
MAX	167	23	86	139	349	22	7.4	56	134	438	201	81
MIN	5.7	5.7	6.2	11	7.4	3.2	1.5	1.5	16	9.3	4.4	3.2
AC-FT	1430	608	1600	1480	2700	359	155	744	2730	3110	1640	733

CAL YR 1980 TOTAL 7061.5 MEAN 19.3 MAX 463 MIN 2.9 AC-FT 14010
WTR YR 1981 TOTAL 8717.2 MEAN 23.9 MAX 438 MIN 1.5 AC-FT 17290

CAROLINE ISLANDS, YAP ISLANDS

16892400 QARINGBEL STREAM, YAP
(Formerly published as Aringel Stream, Yap)

LOCATION (REVISED).--Lat 09°31'02" N., long 138°05'31" E., Hydrologic Unit 20100006, on right bank at Qaringeel and 0.3 mi (0.5 km) southwest of Dalipeebinaew School.

DRAINAGE AREA.--0.24 mi² (0.62 km²).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), revised, from topographic map.

REMARKS.--Records fair. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 1.10 ft³/s (0.031 m³/s), 797 acre-ft/yr (983,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 674 ft³/s (19.1 m³/s) July 13, 1981, gage height, 7.82 ft (2.384 m), from rating curve extended above 20 ft³/s (0.57 m³/s); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 18	1700	201	5.69	4.92	1.500	July 27	0230	355	10.1	6.00	1.829
Dec. 2	1800	277	7.84	5.48	1.670	Aug. 5	1830	300	8.50	5.63	1.716
July 13	2300	*674	19.1	*7.82	2.384						

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	.04	2.7	1.6	.92	.01	.00	.00	.02	.88	1.9	.02
2	3.8	.02	10	.41	1.4	.33	.00	.00	.02	.89	.81	.02
3	1.3	.02	.91	.93	.31	.17	.00	.00	.03	1.3	2.0	.02
4	.53	.01	1.4	1.5	.19	.06	.00	.00	.02	.44	2.6	.02
5	.16	.01	.31	.53	.29	.03	.00	.00	.02	.23	16	.02
6	.07	.01	.97	.23	.39	.02	.00	.01	.01	.14	15	.02
7	2.4	.01	.23	.13	.29	.02	.00	.00	.01	.75	1.2	.02
8	.87	.02	.11	.07	.19	.01	.00	.00	.02	.79	1.2	.02
9	.25	.02	.06	.28	.16	.01	.00	.00	.56	.61	3.9	.02
10	.14	.04	.04	.13	.10	.01	.00	.00	.57	4.6	1.1	.02
11	.16	.33	.04	.07	.27	.00	.00	.01	1.6	1.6	.37	.01
12	.29	.29	.03	.04	14	.01	.00	.01	.85	1.3	.27	.01
13	.16	.44	1.3	.10	3.5	.00	.00	.01	.57	25	6.0	.01
14	.07	.17	13	2.1	.47	.00	.00	.01	4.6	19	.89	.58
15	.08	.13	4.6	15	.21	.00	.00	.00	1.2	.77	.27	1.5
16	.58	.17	1.9	6.2	.13	.00	.00	.00	.35	.35	.11	10
17	2.5	.16	.37	1.3	.07	.00	.00	.00	1.7	.37	.05	2.4
18	13	.05	.19	2.1	.04	.00	.00	.00	.44	.68	.03	14
19	2.9	.04	.10	.47	.04	.00	.00	.00	1.1	.44	.02	1.5
20	3.5	.03	.06	.53	.04	.00	.00	.01	2.1	5.3	.02	.73
21	2.9	.03	.04	5.0	.03	.00	.00	.02	.73	.93	.01	4.8
22	3.1	.03	.57	.44	.02	.00	.00	.02	.31	.44	.01	2.4
23	6.8	.03	.35	.25	.02	.00	.00	.37	.21	.31	.01	2.6
24	1.4	.14	.13	.26	.02	.00	.00	.17	.17	3.7	.01	.65
25	.50	.17	.06	.31	.01	.01	.00	.08	.10	.81	.01	.31
26	.88	.06	.04	.76	.01	.01	.00	.06	.08	.33	.00	9.2
27	.39	.03	.25	3.2	.01	.01	.00	.05	.08	25	7.5	17
28	.19	.03	.17	1.1	.01	.00	.00	.06	.08	8.4	.50	11
29	.10	1.7	.07	.93	---	.00	.00	.06	4.0	1.5	.15	.89
30	.06	.25	.05	.31	---	.00	.00	.04	1.0	.89	.05	.41
31	.04	---	3.1	.16	---	.00	---	.03	---	2.5	.03	---
TOTAL	67.12	4.48	43.15	46.44	23.14	.71	.00	1.02	22.55	110.25	62.02	80.20
MEAN	2.17	.15	1.39	1.50	.83	.023	.000	.033	.75	3.56	2.00	2.67
MAX	18	1.7	13	15	14	.33	.00	.37	4.6	25	16	17
MIN	.04	.01	.03	.04	.01	.00	.00	.00	.01	.14	.00	.01
AC-FT	133	8.9	86	92	46	1.4	.00	2.0	45	219	123	159

CAL YR 1980 TOTAL 401.56 MEAN 1.10 MAX 28 MIN .00 AC-FT 796
WTR YR 1981 TOTAL 461.08 MEAN 1.26 MAX 25 MIN .00 AC-FT 915

CAROLINE ISLANDS, YAP ISLANDS

16892800 DALOELAEB STREAM, YAP
(Formerly published as Dalolab Stream, Yap)

LOCATION (REVISED).--Lat 09°31'05" N., long 138°06'21" E., Hydrologic Unit 20100006, on left bank 0.17 mi (0.27 km) north of Daloelaeb Hill water tank and 1.3 mi (2.1 km) northwest of Protestant Mission Church in Colonia.

DRAINAGE AREA.--0.07 mi^2 (0.18 km^2).

PERIOD OF RECORD.--April 1968 to current year.

REVISED RECORDS.--WDR HI-79-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 110 ft (34 m), revised, from topographic map.

REMARKS.--Records fair. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 0.366 ft^3/s (0.010 m^3/s), 265 acre-ft/yr (327,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180 ft^3/s (5.10 m^3/s) Sept. 15, 1973, gage height, 4.80 ft (1.463 m), from floodmark in well, from rating curve extended above 17 ft^3/s (0.48 m^3/s); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 75 ft^3/s (2.12 m^3/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 18	1800	87	2.46	3.70	1.128	July 27	0200	125	3.54	4.21	1.283
Dec. 2	1700	109	3.09	4.01	1.222	Aug. 5	1800	108	3.06	4.00	1.219
July 13	a2300	*151	4.28	*4.51	1.375						

No flow for many days.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	.00	.81	.73	.46	.00	.00	.00	.00	.12	.65	.01
2	.33	.00	3.3	.12	.71	.09	.00	.00	.00	.08	.17	.00
3	.06	.00	.25	.19	.05	.03	.00	.00	.00	.17	1.1	.00
4	.02	.00	.40	.10	.02	.01	.00	.00	.00	.03	.66	.00
5	.01	.00	.09	.04	.22	.01	.00	.00	.00	.01	5.9	.00
6	.01	.00	.30	.03	.12	.00	.00	.00	.00	.01	5.7	.00
7	.75	.00	.10	.03	.10	.00	.00	.00	.00	.17	.43	.00
8	.30	.01	.03	.02	.04	.00	.00	.00	.00	.42	.44	.00
9	.02	.01	.02	.05	.03	.00	.00	.00	.57	.10	1.6	.00
10	.01	.03	.01	.02	.01	.00	.00	.00	.08	1.0	.30	.00
11	.01	.08	.00	.01	.10	.00	.00	.00	.16	.50	.05	.00
12	.02	.04	.00	.01	6.4	.00	.00	.00	.24	.30	.04	.00
13	.01	.08	.55	.02	1.4	.00	.00	.00	.12	5.0	2.2	.00
14	.01	.03	6.0	.44	.05	.00	.00	.00	2.3	5.0	.22	.04
15	.01	.06	.88	3.9	.01	.00	.00	.00	.19	.20	.03	.28
16	.02	.08	.36	1.8	.01	.00	.00	.00	.03	.05	.01	3.8
17	.61	.08	.05	.39	.01	.00	.00	.00	.30	.03	.01	.94
18	4.7	.03	.02	.72	.00	.00	.00	.00	.24	.12	.01	4.2
19	1.3	.03	.01	.10	.00	.00	.00	.00	.59	.05	.01	.50
20	.99	.02	.01	.30	.00	.00	.00	.00	.94	2.8	.00	.12
21	.61	.01	.01	1.4	.00	.00	.00	.01	.14	.24	.00	1.4
22	1.3	.01	.02	.10	.00	.00	.00	.00	.02	.06	.00	.49
23	2.6	.02	.01	.04	.00	.00	.00	.06	.01	.04	.00	1.0
24	.30	.02	.01	.05	.00	.00	.00	.01	.01	1.1	.00	.10
25	.10	.02	.00	.04	.00	.00	.00	.00	.00	.12	.00	.03
26	.25	.01	.00	.13	.00	.00	.00	.00	.01	.03	.00	3.2
27	.05	.01	.19	1.2	.00	.00	.00	.00	.01	8.8	2.4	6.1
28	.02	.01	.05	.35	.00	.00	.00	.00	.01	3.1	.08	4.3
29	.01	.40	.01	.22	---	.00	.00	.00	.96	.33	.02	.24
30	.01	.02	.01	.04	---	.00	.00	.00	.19	.24	.01	.02
31	.00	---	1.4	.02	---	.00	---	.00	---	.81	.01	---
TOTAL	18.44	1.11	14.90	12.61	9.74	.14	.00	.08	7.12	31.03	22.05	26.77
MEAN	.59	.037	.48	.41	.35	.005	.000	.003	.24	1.00	.71	.89
MAX	4.7	.40	6.0	3.9	6.4	.09	.00	.06	2.3	8.8	5.9	6.1
MIN	.00	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00
AC-FT	37	2.2	30	25	19	.3	.00	.2	14	62	44	53

CAL YR 1980 TOTAL 128.41 MEAN .35 MAX 8.7 MIN .00 AC-FT 255
WTR YR 1981 TOTAL 143.99 MEAN .39 MAX 8.8 MIN .00 AC-FT 286

CAROLINE ISLANDS, YAP ISLANDS

16892900 PEEMGOY STREAM, YAP
(Formerly published as Pemgoy Stream, Yap)

LOCATION (REVISED).--Lat 09°31'07" N., long 138°06'36" E., Hydrologic Unit 20100006, on right bank at Taalgum, 100 ft (30 m) upstream from Taalgum Stream, 0.3 mi (0.5 km) southeast of Mount Peemgoy, and 1.0 mi (1.6 km) northwest of Protestant Mission Church in Colonia.

DRAINAGE AREA.--0.14 mi^2 (0.36 km^2).

PERIOD OF RECORD.--April 1968 to current year.

REVISED RECORDS.--WDR HI-79-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Mar. 30, 1974. Altitude of gage is 60 ft (18 m), revised, from topographic map.

REMARKS.--Records fair. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 0.591 ft^3/s (0.017 m^3/s), 428 acre-ft/yr (528,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335 ft^3/s (9.49 m^3/s) July 13, 1981, gage height, 5.40 ft (1.646 m), from rating curve extended above 15 ft^3/s (0.42 m^3/s); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 70 ft^3/s (1.98 m^3/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 2	1730	94	2.66	3.33	1.015	July 27	0300	228	6.46	4.63	1.411
July 13	2300	*335	9.49	*5.40	1.646	Aug. 5	1800	94	2.66	3.33	1.015

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	.03	1.2	1.8	.87	.02	.01	.00	.01	.24	1.6	.01
2	.98	.02	4.1	.18	1.3	.24	.00	.00	.00	.27	.47	.01
3	.16	.02	.93	.34	.24	.07	.01	.00	.00	.71	1.7	.01
4	.08	.02	1.1	.14	.12	.02	.01	.00	.00	.11	2.0	.01
5	.05	.01	.16	.08	.82	.01	.01	.01	.01	.04	8.1	.01
6	.03	.02	.58	.07	.69	.01	.01	.02	.00	.03	9.0	.01
7	1.0	.02	.09	.03	.34	.01	.00	.00	.01	.58	1.2	.01
8	.47	.04	.06	.02	.18	.01	.00	.00	.01	.85	1.4	.01
9	.07	.04	.03	.08	.18	.01	.00	.00	.21	.34	2.4	.01
10	.04	.07	.03	.06	.08	.00	.00	.00	.08	1.7	1.2	.01
11	.03	.24	.02	.03	.24	.00	.00	.00	.18	1.0	.18	.01
12	.03	.08	.02	.02	9.5	.01	.00	.01	.52	.69	.08	.01
13	.02	.21	1.1	.07	2.9	.00	.00	.00	.42	9.7	2.8	.02
14	.01	.11	7.5	.31	.21	.00	.00	.00	2.3	9.0	1.1	.06
15	.04	.18	1.1	5.2	.08	.00	.00	.00	.34	.38	.14	.49
16	.18	.18	1.2	2.8	.07	.00	.00	.00	.07	.11	.05	5.6
17	.58	.14	.09	.93	.04	.00	.00	.00	.47	.09	.03	2.1
18	6.3	.07	.05	1.1	.03	.00	.00	.00	.58	.12	.02	6.4
19	2.2	.08	.02	.25	.03	.00	.00	.01	.95	.08	.01	2.0
20	1.4	.05	.02	.75	.02	.00	.00	.00	2.0	3.6	.01	.47
21	.58	.03	.01	2.5	.01	.01	.00	.01	.44	.81	.01	1.7
22	2.5	.03	.03	.20	.01	.01	.00	.02	.06	.21	.01	1.4
23	3.0	.02	.03	.10	.02	.01	.00	.30	.03	.11	.01	1.8
24	1.1	.02	.01	.10	.02	.00	.00	.03	.03	1.8	.01	.24
25	.30	.02	.01	.10	.02	.01	.00	.01	.02	.38	.01	.06
26	.58	.02	.01	.25	.01	.01	.00	.01	.05	.09	.01	4.9
27	.24	.02	.51	3.0	.01	.01	.00	.01	.12	12	4.8	9.8
28	.09	.02	.07	.75	.01	.01	.00	.01	.03	4.5	.30	6.6
29	.06	.68	.02	.50	---	.00	.00	.01	2.7	.81	.09	.97
30	.04	.06	.01	.14	---	.01	.00	.00	.47	.52	.03	.11
31	.03	---	1.8	.09	---	.01	---	.00	---	1.5	.01	---
TOTAL	28.79	2.55	21.91	21.99	18.05	.50	.05	.46	12.11	52.37	38.78	44.84
MEAN	.93	.085	.71	.71	.64	.016	.002	.015	.40	1.69	1.25	1.49
MAX	6.6	.68	7.5	5.2	9.5	.24	.01	.30	2.7	12	9.0	9.8
MIN	.01	.01	.01	.02	.01	.00	.00	.00	.00	.03	.01	.01
AC-FT	57	5.1	43	44	36	1.0	.10	.9	24	104	77	89

CAL YR 1980 TOTAL 199.94 MEAN .55 MAX 14 MIN .00 AC-FT 397
WTR YR 1981 TOTAL 242.40 MEAN .66 MAX 12 MIN .00 AC-FT 481

CAROLINE ISLANDS, YAP ISLANDS

16893100 BURONG STREAM, YAP

LOCATION (REVISED).--Lat 09°32'05" N., long 138°07'19" E., Hydrologic Unit 20100006, on left bank at Dugor, 0.25 mi (0.40 km) upstream from mouth, and 0.5 mi (0.8 km) northeast of Mount Gamuw.

DRAINAGE AREA.--0.23 mi^2 (0.60 km^2).

PERIOD OF RECORD.--April 1968 to current year.

REVISED RECORDS.--WDR HI-79-2: Drainage area, 1968-78(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 0.935 ft^3/s (0.026 m^3/s), 677 acre-ft/yr (835,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 505 ft^3/s (14.3 m^3/s) July 4, 1980, gage height, 5.30 ft (1.615 m), from rating curve extended above 15 ft^3/s (0.42 m^3/s); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft^3/s (2.83 m^3/s), and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
July 13	2300	*433	12.3	*5.06	1.542
July 27	a0200	194	5.49	4.04	1.231
Aug. 5	a1800	157	4.45	3.82	1.164

No flow for many days.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	.06	1.0	3.0	.95	.02	.00	.00	.00	.18	2.0	.06
2	1.9	.05	6.0	.30	1.7	.24	.00	.00	.00	.11	.75	.06
3	.57	.05	1.5	.50	.47	.11	.00	.00	.00	.11	2.0	.05
4	.30	.04	1.8	.25	.24	.05	.00	.00	.00	.08	2.5	.02
5	.22	.03	.30	.15	2.7	.04	.00	.00	.00	.02	15	.02
6	.13	.03	1.0	.12	1.4	.03	.00	.00	.00	.01	15	.02
7	2.6	.03	.15	.05	.65	.02	.00	.00	.00	1.2	1.5	.02
8	1.3	.06	.10	.04	.47	.01	.00	.00	.00	3.3	1.5	.01
9	.30	.07	.07	.12	.34	.01	.00	.00	.00	.66	3.0	.02
10	.18	.12	.05	.10	.22	.01	.00	.00	.00	1.4	1.0	.01
11	.13	.40	.04	.05	.47	.01	.00	.00	.00	.70	.30	.01
12	.10	.12	.04	.04	17	.01	.00	.00	.01	.37	.10	.52
13	.08	.35	1.5	.10	4.6	.01	.00	.00	.00	13	5.0	.24
14	.06	.15	12	.50	.75	.00	.00	.00	1.0	16	1.0	1.6
15	.42	.30	1.8	4.1	.25	.00	.00	.00	.24	.60	.25	3.6
16	.44	.30	2.0	4.8	.10	.00	.00	.00	.03	.18	.10	11
17	1.0	.20	.15	1.6	.05	.00	.00	.00	.18	1.2	.05	3.5
18	8.4	.10	.09	1.1	.05	.00	.00	.00	.11	.30	.03	8.7
19	5.2	.12	.05	.44	.05	.00	.00	.00	.20	.11	.02	2.1
20	3.2	.08	.04	1.2	.05	.00	.00	.00	1.3	4.2	.01	.71
21	.70	.07	.03	3.1	.04	.00	.00	.00	.34	.85	.01	1.8
22	2.5	.06	.05	.37	.03	.00	.00	.00	.06	.24	.00	1.8
23	4.0	.05	.05	.16	.02	.00	.00	.04	.01	.11	.00	3.2
24	2.0	.04	.03	.25	.02	.00	.00	.01	.00	4.5	.00	.57
25	.44	.04	.02	.24	.02	.00	.00	.00	.00	.72	.01	.20
26	1.1	.04	.02	.62	.02	.00	.00	.00	.18	.20	.01	7.5
27	1.2	.04	.80	4.1	.01	.00	.00	.00	.34	20	7.2	16
28	.34	.04	.12	1.4	.01	.00	.00	.00	.07	8.0	.70	10
29	.16	1.0	.05	1.2	---	.00	.00	.00	11	1.5	1.0	1.5
30	.10	.10	.03	.34	---	.00	.00	.00	.87	1.0	.22	.34
31	.08	---	3.0	.18	---	.00	---	.00	---	2.5	.08	---
TOTAL	49.15	4.14	33.88	30.52	32.68	.57	.00	.05	15.94	83.35	60.34	75.18
MEAN	1.59	.14	1.09	.98	1.17	.018	.000	.002	.53	2.69	1.95	2.51
MAX	10	1.0	12	4.8	17	.24	.00	.04	11	20	15	16
MIN	.06	.03	.02	.04	.01	.00	.00	.00	.00	.01	.00	.01
AC-FT	97	8.2	67	61	65	1.1	.00	.10	32	165	120	149

CAL YR 1980 TOTAL 335.44 MEAN .92 MAX 25 MIN .00 AC-FT 665
WTR YR 1981 TOTAL 385.80 MEAN 1.06 MAX 20 MIN .00 AC-FT 765

NOTE.--No gage-height record Nov. 4 to Jan. 14.

CAROLINE ISLANDS, YAP ISLANDS

16893200 MUKONG STREAM, GAGIL-TAMIL
(Formerly published as Mukong Stream, Gagil-Tomil)

LOCATION (REVISED).--Lat 09°32'05" N., long 138°10'18" E., Hydrologic Unit 20100006, on right bank 0.2 mi (0.3 km) upstream from mouth and 0.9 mi (1.4 km) south of U.S. Coast Guard LORAN station.

DRAINAGE AREA.--0.50 mi² (1.29 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1972-75, December 1974 to June 1978, July to September 1978, stage-discharge relation indefinite due to blocked control. October 1978 to current year.

REVISED RECORDS.--WDR HI-79-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5 ft (1.5 m), from topographic map.

REMARKS.--Records poor. At times some water is pumped from above station for village use. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years (water years 1976-77, 1979-81), 1.88 ft³/s (0.053 m³/s), 1,360 acre-ft/yr (1.68 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39 ft³/s (1.10 m³/s) Jan. 22, 1975, gage height, 2.69 ft (0.820 m), from rating curve extended 12 ft³/s (0.33 m³/s); maximum gage height, 3.40 ft (1.036 m), from floodmark, Sept. 14, 1978; minimum discharge, 0.07 ft³/s (0.002 m³/s) Apr. 9, 1979, Mar. 15, 1980, May 4, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30 ft³/s (0.85 m³/s) July 14, gage height, 3.62 ft (1.103 m), from rating curve extended above 6.2 ft³/s (0.18 m³/s); no other peak above base of 25 ft³/s (0.71 m³/s); minimum, 0.07 ft³/s (0.002 m³/s) May 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	.55	5.0	2.5	1.7	.67	.22	.20	.14	2.0	3.5	.93
2	3.8	.50	15	1.5	2.0	1.8	.20	.18	.14	1.4	2.6	.87
3	3.2	.50	5.0	1.5	1.0	.81	.18	.15	.12	1.2	3.4	.81
4	1.8	.50	2.5	2.5	.93	.71	.18	.12	.12	.93	4.2	.71
5	1.5	.51	2.0	1.5	3.4	.63	.18	.18	.12	.93	8.7	.67
6	1.7	.59	2.5	1.2	1.8	.63	.18	.35	.12	.93	13	.91
7	2.9	.67	2.0	1.0	2.0	.67	.18	.28	.10	2.5	4.3	.99
8	2.9	1.3	1.5	1.0	1.8	.63	.20	.20	.10	1.6	3.6	.71
9	1.8	.71	1.0	1.2	1.6	.63	.18	.15	.10	1.5	4.0	.67
10	1.5	.81	.81	1.0	1.4	.59	.18	.10	.10	4.0	5.8	.75
11	1.3	.81	.71	1.0	1.2	.63	.15	.18	.10	2.9	2.3	.75
12	1.4	.90	.67	.75	25	.63	.15	.20	.15	1.5	2.1	.75
13	1.2	1.2	2.4	1.0	7.5	.43	.15	.18	.12	1.6	3.6	.67
14	1.1	.63	7.3	3.5	2.0	.35	.15	.12	2.5	14	3.0	.47
15	1.8	.63	3.0	20	1.5	.33	.15	.15	1.0	3.0	2.0	.81
16	1.6	.67	3.5	10	1.4	.33	.18	.66	.90	2.1	1.7	4.9
17	1.5	.67	1.6	8.3	1.2	.28	.18	.40	1.0	2.9	1.6	5.3
18	4.2	.51	1.3	6.0	1.1	.25	.18	.20	.67	2.1	1.4	7.2
19	4.6	.51	1.1	3.5	.99	.28	.18	.18	.81	1.8	1.3	2.7
20	4.1	.43	.93	2.6	1.0	.25	.18	.16	2.0	4.5	1.2	2.0
21	1.8	.43	1.4	3.4	.81	.28	.15	.14	1.6	2.7	1.2	3.0
22	3.9	.47	.99	2.5	.75	.25	.15	.12	1.1	2.1	1.1	2.9
23	3.7	.43	.87	1.8	.71	.25	.12	.40	.75	1.8	1.0	2.7
24	2.7	.43	.75	1.8	.67	.25	.12	.20	.55	3.4	1.1	2.1
25	1.8	.43	.71	1.5	.63	.28	.10	.18	.43	3.1	1.3	1.8
26	1.5	.47	.63	1.8	.55	.28	.10	.16	1.0	2.9	1.2	4.2
27	1.1	.47	3.7	4.9	.47	.25	.18	.16	1.1	7.4	5.6	16
28	.81	.45	1.4	1.9	.55	.22	.35	.16	.82	8.9	2.4	11
29	.67	2.5	.93	1.8	---	.22	.30	.16	5.9	2.7	1.7	3.9
30	.67	1.0	.87	1.2	---	.22	.25	.14	3.1	2.3	1.2	2.3
31	.59	---	5.0	.99	---	.22	---	.14	---	2.7	1.2	---
TOTAL	69.94	20.68	77.07	95.14	65.66	14.25	5.35	6.30	26.76	93.39	92.3	83.47
MEAN	2.26	.69	2.49	3.07	2.35	.46	.18	.20	.89	3.01	2.98	2.78
MAX	6.8	2.5	15	20	25	1.8	.35	.66	5.9	14	13	16
MIN	.59	.43	.63	.75	.47	.22	.10	.10	.10	.93	1.0	.47
AC-FT	139	41	153	189	130	28	11	12	53	185	183	166

CAL YR 1980 TOTAL 610.38 MEAN 1.67 MAX 18 MIN .18 AC-FT 1210
WTR YR 1981 TOTAL 650.31 MEAN 1.78 MAX 25 MIN .10 AC-FT 1290

CAROLINE ISLANDS, ISLAND OF PONAPE

16897600 NANPIL RIVER
(Formerly published as Nanepil River)

LOCATION (REVISED).--Lat 06°55'09" N., long 158°11'59" E., Hydrologic Unit 20100006, on left bank 0.1 mi (0.2 km) upstream from diversion dam and 1.3 mi (2.1 km) upstream from Kiepw River.

DRAINAGE AREA.--3.00 mi^2 (7.77 km^2), revised.

PERIOD OF RECORD.--March 1970 to current year.

REVISED RECORDS.--WDR HI-76-1: 1970(M), 1971-72(P), 1973(M), 1974(P), 1975(M).

GAGE.--Water-stage recorder. Altitude of gage is 370 ft (113 m), revised, from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 47.5 ft^3/s (1.345 m^3/s), 34,410 acre-ft/yr (42.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,820 ft^3/s (250 m^3/s) Aug. 4, 1976, gage height, 9.68 ft (2.950 m), from rating curve extended above 168 ft^3/s (4.76 m^3/s) on basis of slope-area measurement at gage height 9.68 ft (2.950 m); minimum, 1.6 ft^3/s (0.045 m^3/s) Nov. 17-23, 1972, Feb. 6, Oct. 21, 22, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 4,000 ft^3/s (113 m^3/s) Aug. 7, gage height unknown, no other peak above base of 3,200 ft^3/s (90.6 m^3/s); minimum, 4.6 ft^3/s (0.130 m^3/s) Mar. 17-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	31	21	24	50	9.8	12	117	16	12	102	20
2	158	18	16	62	98	8.3	10	86	13	14	57	15
3	26	12	9.2	69	57	10	8.3	69	12	107	31	11
4	15	8.0	8.1	26	30	8.3	11	39	9.4	70	18	8.0
5	112	7.2	6.4	16	20	6.5	11	42	12	23	12	17
6	19	7.0	5.6	14	15	5.9	20	29	41	16	20	19
7	17	14	5.1	11	14	5.6	10	18	25	11	280	35
8	33	8.1	5.1	12	83	10	27	12	71	11	40	15
9	17	7.5	8.1	9.6	62	8.7	30	17	74	39	45	70
10	14	7.3	20	14	36	7.6	34	14	53	16	30	20
11	12	13	18	63	48	16	32	11	156	32	20	14
12	9.2	9.2	13	59	28	8.7	86	13	36	20	15	17
13	128	19	18	17	18	7.3	66	8.7	41	64	11	16
14	20	11	10	14	14	6.5	83	8.7	38	79	26	13
15	37	27	17	11	12	7.0	108	9.0	71	37	15	11
16	21	17	14	68	160	5.9	52	8.0	36	31	17	15
17	12	27	65	43	170	5.1	78	21	40	18	56	30
18	11	25	118	16	36	5.4	46	33	81	12	22	29
19	24	12	46	40	41	5.1	28	74	28	11	18	68
20	16	15	30	197	26	6.8	34	21	30	9.0	15	75
21	11	23	22	31	18	17	17	20	22	10	17	25
22	9.6	24	16	29	24	39	16	37	74	13	10	35
23	34	11	11	59	15	67	12	62	30	10	25	45
24	57	9.2	10	51	12	97	9.4	24	46	7.2	15	75
25	27	7.3	9.6	40	13	31	13	14	36	10	20	50
26	14	6.7	11	21	10	74	18	67	18	81	50	30
27	24	7.8	14	78	10	49	159	38	15	102	30	18
28	22	5.6	26	70	14	36	63	61	88	26	15	14
29	148	8.8	12	41	---	21	21	39	26	46	10	12
30	108	8.5	102	20	---	24	19	25	16	23	30	10
31	29	---	30	60	---	14	---	25	---	89	70	---
TOTAL	1200.8	407.2	717.2	1285.6	1134	623.5	1133.7	1062.4	1254.4	1049.2	1142	832.0
MEAN	38.7	13.6	23.1	41.5	40.5	20.1	37.8	34.3	41.8	33.8	36.8	27.7
MAX	158	31	118	197	170	97	159	117	156	107	280	75
MIN	9.2	5.6	5.1	9.6	10	5.1	8.3	8.0	9.4	7.2	10	8.0
AC-FT	2380	808	1420	2550	2250	1240	2250	2110	2490	2080	2270	1650

CAL YR 1980 TOTAL 15859.4 MEAN 43.3 MAX 350 MIN 4.2 AC-FT 31460
WTR YR 1981 TOTAL 11842.0 MEAN 32.4 MAX 280 MIN 5.1 AC-FT 23490

NOTE.--No gage-height record Aug. 6 to Sept. 30.

CAROLINE ISLANDS, ISLAND OF PONAPE

16897900 LEWI RIVER
(Formerly published as Lui River)

LOCATION (REVISED).--Lat 06°55'32" N., long 158°12'18" E., Hydrologic Unit 20100006, on right bank at road and pipeline crossing, 300 ft (91 m) upstream from right-bank tributary and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--0.46 mi^2 (1.19 km^2), revised.

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 290 ft (88 m), revised, from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. No diversion above station. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 5.44 ft^3/s (0.154 m^3/s), 3,940 acre-ft/yr (4.86 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft^3/s (33.7 m^3/s) Aug. 4, 1976, gage height, 5.92 ft (1.804 m), from rating curve extended above 37 ft^3/s (1.05 m^3/s), on basis of slope-area measurement at gage height 5.92 ft (1.804 m); minimum, 0.13 ft^3/s (0.004 m^3/s) Feb. 2-4, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 570 ft^3/s (16.1 m^3/s) Aug. 7, gage height, 4.35 ft (1.326 m), from rating curve extended above 8.8 ft^3/s (0.25 m^3/s), on basis of slope-area measurement at gage height 5.92 ft (1.804 m); minimum, 0.35 ft^3/s (0.010 m^3/s) Mar. 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	5.5	2.0	3.7	2.8	1.0	1.2	13	1.7	1.6	3.5	3.6
2	3.8	3.6	1.4	9.0	6.1	.80	1.1	18	1.4	1.5	2.9	2.3
3	3.8	2.4	1.0	7.6	5.5	.75	.98	10	1.5	15	2.5	1.6
4	2.0	1.8	.89	3.1	3.6	.70	.98	8.5	.92	12	1.7	1.2
5	7.0	1.4	.81	1.7	2.0	.65	.92	5.3	1.3	3.5	1.3	2.9
6	4.6	1.2	.73	1.2	1.3	.65	1.1	2.9	4.8	2.1	2.6	2.9
7	3.4	3.2	.66	.97	1.1	.60	1.0	2.1	2.2	1.6	43	5.6
8	4.6	1.5	.73	1.0	9.0	.60	2.5	1.7	14	2.6	5.8	2.2
9	3.4	1.3	1.7	.81	8.4	.65	3.9	1.8	12	3.7	6.3	11
10	2.8	1.8	3.2	2.0	4.0	.60	5.4	1.6	9.4	2.1	4.6	2.9
11	3.2	1.6	2.5	2.0	5.5	.70	4.8	1.3	25	4.3	3.0	2.1
12	2.3	1.2	1.4	4.8	2.5	.65	8.5	1.3	4.6	2.6	2.6	3.2
13	4.4	3.1	1.6	1.8	1.5	.60	12	1.0	4.6	7.4	1.5	2.2
14	5.0	2.1	.97	1.2	1.1	.50	7.8	.98	4.7	7.8	4.6	2.2
15	4.4	4.2	1.5	1.0	.97	.45	15	.98	10	4.4	2.2	1.6
16	4.0	2.8	1.3	2.8	33	.40	7.4	.92	3.9	6.1	2.3	1.9
17	2.5	9.8	6.7	4.5	27	.40	12	2.7	4.6	3.1	8.5	5.0
18	2.4	4.2	20	1.3	4.8	.35	5.9	4.1	11	2.0	3.1	4.4
19	4.4	2.2	8.4	3.5	5.0	.35	3.0	6.8	4.0	1.8	2.8	9.8
20	3.4	2.0	2.6	17	3.4	.35	4.7	2.5	4.3	1.3	2.0	12
21	2.3	5.5	2.5	3.0	2.0	1.5	2.1	2.5	2.6	1.3	2.4	3.6
22	2.0	4.2	2.0	2.6	1.7	2.0	1.7	4.8	7.3	2.5	1.5	4.6
23	3.8	2.1	1.3	3.5	1.2	5.0	1.2	7.3	3.6	2.0	4.2	6.6
24	6.1	1.6	1.1	5.4	.97	7.0	1.1	2.4	2.9	1.2	2.1	11
25	5.9	1.3	1.3	5.4	.81	4.0	1.4	1.5	3.1	1.2	2.9	9.0
26	3.1	1.3	1.8	1.8	1.0	8.8	1.3	8.9	2.0	5.2	7.5	5.3
27	4.2	1.5	1.5	7.0	.80	7.1	19	5.4	1.8	14	5.2	2.7
28	3.6	.97	3.4	6.3	1.2	4.3	9.6	7.6	11	3.5	2.0	2.7
29	6.4	1.1	1.2	3.8	---	2.1	2.7	7.4	3.1	5.2	1.5	2.0
30	6.7	1.0	11	2.0	---	2.8	4.1	3.1	2.0	2.9	4.8	1.5
31	5.0	---	5.5	3.4	---	1.6	---	2.8	---	4.6	11	---
TOTAL	121.7	77.47	92.69	115.18	138.25	57.95	144.38	141.18	165.32	130.1	151.9	129.6
MEAN	3.93	2.58	2.99	3.72	4.94	1.87	4.81	4.55	5.51	4.20	4.90	4.32
MAX	7.0	9.8	20	17	33	8.8	19	18	25	15	43	12
MIN	1.2	.97	.66	.81	.80	.35	.92	.92	.92	1.2	1.3	1.2
AC-FT	241	154	184	228	274	115	286	280	328	258	301	257

CAL YR 1980 TOTAL 2025.57 MEAN 5.53 MAX 68 MIN .43 AC-FT 4020
WTR YR 1981 TOTAL 1465.72 MEAN 4.02 MAX 43 MIN .35 AC-FT 2910

NOTE.--No gage-height record Feb. 26 to Mar. 26.

CAROLINE ISLANDS, ISLAND OF PONAPE

16898200 LEWI RIVER AT MOUTH
(Formerly published as Lui River at mouth)

LOCATION (REVISED).--Lat 06°57'04" N., long 158°12'39" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) upstream from bridge at mouth and 0.4 mi (0.6 km) west southwest of Ponape State Hospital.

DRAINAGE AREA.--2.08 mi^2 (5.39 km^2), revised.

PERIOD OF RECORD.--March 1970 to current year.

REVISED RECORDS.--WDR HI-76-1: 1970(P), 1971-75.

GAGE.--Water-stage recorder. Altitude of gage is 30 ft (9.1 m), revised, from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 25.5 ft^3/s (0.722 m^3/s), 18,470 acre-ft/yr (22.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,360 ft^3/s (180 m^3/s) Aug. 4, 1976, gage height, 8.91 ft (2.716 m), from rating curve extended above 288 ft^3/s (8.16 m^3/s) on basis of slope-area measurement at gage height 8.91 ft (2.716 m); minimum, 0.26 ft^3/s (0.007 m^3/s) Jan. 20, 1973, during short regulation of flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 2,200 ft^3/s (62.3 m^3/s) Aug. 7, gage height unknown, no other peak above base of 2,000 ft^3/s (56.6 m^3/s); minimum, 2.3 ft^3/s (0.065 m^3/s) Mar. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL.	AUG	SEP
1	11	26	7.0	19	15	6.2	7.3	112	16	11	22	22
2	45	19	6.0	35	29	5.2	6.3	119	12	9.9	18	14
3	20	14	5.2	33	30	5.2	5.7	80	10	73	15	10
4	13	10	5.0	19	22	4.6	5.1	58	9.0	56	11	8.0
5	60	8.8	4.6	14	15	4.2	4.8	29	11	23	8.6	18
6	19	8.1	4.2	10	11	3.9	5.9	22	17	17	20	24
7	17	11	3.9	8.6	9.9	3.5	4.4	15	13	13	250	37
8	23	8.1	3.8	7.5	32	3.6	11	11	44	15	40	13
9	16	7.3	5.5	6.5	30	3.9	11	11	46	15	43	70
10	14	7.1	9.0	8.6	20	3.5	14	9.4	50	11	30	18
11	12	6.8	7.9	8.4	20	4.5	13	8.4	168	29	20	14
12	9.9	6.3	5.6	17	14	3.5	26	7.5	33	17	15	22
13	51	8.2	5.8	8.4	10	3.4	39	6.5	33	50	11	15
14	15	6.8	4.8	6.5	8.4	3.1	34	6.2	36	54	25	12
15	14	14	5.9	5.4	7.7	2.9	57	6.5	53	30	15	10
16	12	10	5.1	14	127	2.7	34	5.9	26	42	18	14
17	9.0	20	20	19	115	2.6	38	13	28	21	56	32
18	8.6	15	48	8.1	26	2.5	32	17	48	14	20	28
19	15	10	37	10	20	2.5	20	24	29	11	16	60
20	10	9.0	15	112	16	2.5	26	13	26	8.8	13	74
21	8.4	16	12	18	12	4.1	15	14	19	9.6	16	25
22	7.0	14	10	15	11	5.7	12	84	38	17	10	32
23	13	9.2	8.4	18	9.2	19	9.4	33	25	13	24	50
24	31	8.1	8.6	25	7.7	34	7.9	22	20	8.0	14	72
25	17	7.0	8.8	25	7.1	15	7.9	39	19	9.5	20	55
26	10	7.1	10	13	6.2	40	7.1	66	13	40	48	30
27	14	7.0	8.4	37	6.8	29	34	34	11	90	32	18
28	11	6.0	11	31	8.1	21	41	45	131	25	13	14
29	67	5.6	7.5	23	---	12	15	57	18	35	10	12
30	62	5.6	31	15	---	14	20	80	13	20	30	10
31	24	---	22	16	---	8.8	---	23	---	30	70	---
TOTAL	658.9	310.1	347.0	606.0	646.1	276.6	563.8	1071.4	1015.0	817.8	953.6	835.0
MEAN	21.3	10.3	11.2	19.5	23.1	8.92	18.8	34.6	33.8	26.4	30.8	27.8
MAX	67	26	48	112	127	40	57	119	168	90	250	74
MIN	7.0	5.6	3.8	5.4	6.2	2.5	4.4	5.9	9.0	8.0	8.6	8.0
AC-FT	1310	615	688	1200	1280	549	1120	2130	2010	1620	1890	1660

CAL YR 1980 TOTAL 9429.4 MEAN 25.8 MAX 351 MIN 3.8 AC-FT 18700
WTR YR 1981 TOTAL 8101.3 MEAN 22.2 MAX 250 MIN 2.5 AC-FT 16070

NOTE.--No gage-height record July 11 to Sept. 30.

CAROLINE ISLANDS, ISLAND OF PONAPE

16898600 LUHPWOR RIVER
(Formerly published as Lupwor River)

LOCATION (REVISED).--Lat 06°54'09" N., long 158°09'07" E., Hydrologic Unit 20100006, on left bank about 300 ft (91 m) upstream from 50-ft (15-m) waterfall, 0.2 mi (0.3 km) downstream from highway bridge, and 0.2 mi (0.3 km) west of Pwakorokot Hill.

DRAINAGE AREA.--0.72 mi² (1.86 km²), revised.

PERIOD OF RECORD.--September 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 145 ft (44 m), revised, from topographic map.

REMARKS.--Records good. Water-quality analyses and periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 8.98 ft³/s (0.254 m³/s), 6,510 acre-ft/yr (8.03 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,090 ft³/s (87.5 m³/s) Aug. 4, 1976, gage height, 8.26 ft (2.518 m), from rating curve extended above 47 ft³/s (1.33 m³/s), on basis of estimate of peak flow; minimum, 0.40 ft³/s (0.011 m³/s) Feb. 18, 19, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft³/s (21.2 m³/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 2	1330	765	21.7	5.65	1.722
Aug. 7	0700	*1020	28.9	*6.10	1.859

Minimum discharge, 0.62 ft³/s (0.018 m³/s) Mar. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	7.6	2.8	5.2	8.3	1.8	2.3	16	3.6	3.9	39	6.4
2	45	5.1	2.2	15	20	1.6	1.9	17	3.1	3.7	12	5.0
3	7.6	4.1	1.6	13	11	2.1	1.6	22	3.0	21	8.3	3.9
4	5.7	3.4	1.4	6.6	7.6	1.9	1.6	17	2.6	11	5.9	3.2
5	22	3.0	1.4	4.6	5.7	1.4	1.6	14	2.7	6.0	4.7	4.3
6	5.9	2.6	1.2	3.8	4.5	1.6	1.7	7.8	5.9	4.8	6.9	24
7	5.0	3.3	1.2	3.1	4.0	1.4	1.3	5.3	4.1	3.8	79	13
8	8.6	2.5	1.2	3.1	16	1.6	2.4	4.1	27	3.7	12	6.4
9	4.8	2.3	1.8	2.6	12	1.4	3.1	4.2	12	6.2	12	5.0
10	5.7	2.3	3.1	2.9	7.8	1.2	3.7	4.7	9.3	4.0	9.0	4.5
11	4.3	2.3	2.6	6.0	7.3	1.6	20	3.8	44	9.7	7.0	4.0
12	3.5	2.0	2.5	10	5.2	1.3	16	3.3	9.3	6.4	6.8	5.5
13	30	3.3	3.0	4.1	4.0	1.2	13	2.7	8.6	13	4.6	4.5
14	5.7	2.5	1.8	3.1	3.4	1.0	14	2.4	7.8	19	3.9	4.0
15	14	4.2	2.6	2.7	3.1	1.0	22	2.3	14	8.0	3.5	2.8
16	6.6	3.6	2.0	12	49	.88	12	2.0	7.7	6.8	7.2	5.0
17	4.5	5.0	10	8.6	40	.77	11	4.3	9.5	5.3	13	9.0
18	4.0	3.4	23	3.9	5.9	.74	8.8	5.1	12	4.1	6.8	8.0
19	5.9	2.6	9.3	7.8	6.2	.68	5.9	7.3	7.1	6.1	4.8	12
20	4.1	2.5	5.9	47	4.1	.74	5.7	3.9	6.8	4.6	3.9	18
21	3.4	2.6	4.6	10	3.2	1.4	4.0	3.8	5.3	4.1	3.2	5.0
22	3.0	3.0	3.7	7.6	2.8	2.7	3.6	6.8	12	3.9	2.9	8.0
23	15	2.1	3.0	15	2.2	5.1	3.0	12	6.4	3.2	14	10
24	17	1.9	2.6	9.6	2.0	9.8	2.6	5.7	9.5	2.7	6.2	15
25	7.3	1.7	2.4	7.6	1.8	3.9	2.7	3.8	8.0	3.1	5.9	20
26	4.6	1.6	2.8	5.1	1.6	8.6	3.2	14	5.0	9.6	9.2	10
27	7.3	1.6	3.2	19	1.6	6.2	27	8.0	4.3	23	9.8	6.9
28	5.3	1.4	4.8	12	2.3	5.0	14	13	16	6.6	4.8	6.9
29	20	1.6	3.0	8.8	---	3.5	5.3	7.1	6.4	7.4	3.8	5.2
30	25	1.8	27	5.2	---	3.4	7.3	5.2	4.7	8.3	11	4.2
31	6.6	---	6.2	8.8	---	2.6	---	4.8	---	22	14	---
TOTAL	315.7	86.9	143.9	273.8	242.6	78.11	222.3	233.4	277.7	245.0	335.1	239.7
MEAN	10.2	2.90	4.64	8.83	8.66	2.52	7.41	7.53	9.26	7.90	10.8	7.99
MAX	45	7.6	27	47	49	9.8	27	22	44	23	79	24
MIN	3.0	1.4	1.2	2.6	1.6	.68	1.3	2.0	2.6	2.7	2.9	2.8
AC-FT	626	172	285	543	481	155	441	463	551	486	665	475

CAL YR 1980 TOTAL 3611.90 MEAN 9.87 MAX 97 MIN 1.2 AC-FT 7160
WTR YR 1981 TOTAL 2694.21 MEAN 7.38 MAX 79 MIN .68 AC-FT 5340

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899500 MUTUNTE RIVER

LOCATION (REVISED).--Lat 05°21'45" N., long 162°59'20" E., Hydrologic Unit 20100006, on left bank at dam, 0.6 mi (1.0 km) upstream from mouth, and 1.2 mi (1.9 km) north of Mount Mutunte.

DRAINAGE AREA.--0.52 mi^2 (1.35 km^2), revised.

PERIOD OF RECORD.--May 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 46 ft (14.0 m) from stadia survey.

REMARKS.--Records fair. Water is diverted from diversion dam above station through a 12-in (0.30-m) pipe for domestic use in Tafunsak. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 5.58 ft^3/s (0.158 m^3/s), 4,040 acre-ft/yr (4.98 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,430 ft^3/s (40.5 m^3/s) July 16, 1976, gage height, 2.94 ft (0.896 m), from rating curve extended above 140 ft^3/s (3.96 m^3/s); minimum, 0.15 ft^3/s (0.004 m^3/s) Feb. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft^3/s (17.0 m^3/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 3	2000	755	21.4	2.59	0.789
Apr. 27	1000	896	25.4	2.67	.814
June 28	2100	*932	26.4	*2.69	.820

Minimum discharge, 0.64 ft^3/s (0.018 m^3/s) Apr. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.2	.86	.78	.86	.78	.67	6.0	2.5	3.2	2.1	2.1
2	1.2	1.6	.86	.95	5.5	.78	.64	2.7	3.0	3.0	6.7	1.8
3	1.2	22	.95	2.0	3.3	.78	6.8	5.6	2.5	33	2.7	1.5
4	1.5	8.2	.71	2.1	1.8	.78	15	6.7	8.9	26	2.0	1.8
5	1.4	8.5	.71	.78	1.0	.78	7.9	4.0	2.5	4.5	2.5	1.8
6	1.2	3.0	6.6	.71	1.2	1.4	2.0	1.6	13	3.2	2.0	1.5
7	1.2	1.8	19	1.8	1.5	.95	2.5	7.3	4.5	2.7	2.1	1.4
8	1.2	1.4	34	4.7	1.8	.78	2.1	30	5.4	2.5	3.2	2.0
9	1.6	2.4	4.7	1.6	1.4	.78	1.8	4.1	3.0	2.1	6.5	1.5
10	1.8	4.0	3.0	6.0	1.6	.78	14	2.1	7.8	2.0	3.0	3.6
11	7.2	1.5	11	13	4.2	.78	4.4	1.6	8.4	2.3	2.3	3.4
12	2.1	1.4	4.3	3.0	2.5	.78	5.1	1.4	3.8	4.3	1.6	1.5
13	1.5	1.5	6.6	1.6	1.4	.78	3.6	1.3	2.7	9.2	1.5	1.6
14	1.4	1.2	3.0	2.1	1.2	.95	2.0	1.5	2.0	3.6	1.5	1.4
15	1.3	1.5	3.8	5.4	1.3	.78	3.4	1.0	1.8	2.3	1.5	1.4
16	1.2	1.2	3.2	3.6	1.2	.86	2.0	1.0	1.6	2.0	1.3	3.2
17	1.3	.95	14	2.6	6.1	.86	1.4	1.0	5.2	1.8	2.5	3.4
18	7.2	.86	10	6.4	13	.86	1.2	1.8	2.3	1.7	1.5	1.6
19	2.1	.86	4.4	3.0	5.9	.78	1.0	2.0	4.5	1.6	1.4	15
20	1.6	1.4	2.7	1.5	2.3	.78	4.4	6.5	2.7	1.5	3.4	4.9
21	2.1	3.8	8.5	1.2	1.6	.78	6.2	2.5	2.5	3.4	1.6	3.6
22	4.1	33	4.1	1.3	1.4	1.7	3.6	33	2.7	1.6	6.0	2.0
23	2.0	5.7	2.3	4.5	.95	2.7	1.5	17	1.8	1.4	5.6	1.8
24	1.5	2.3	2.3	2.7	.95	17	2.6	8.7	17	2.3	5.2	12
25	1.3	1.6	3.1	2.0	.86	3.8	8.0	11	21	4.5	3.6	2.7
26	1.3	1.2	2.5	1.4	.78	1.6	13	9.8	12	2.1	2.0	1.8
27	1.8	1.0	3.0	8.0	.78	6.4	70	35	3.0	9.8	1.4	1.6
28	1.4	.95	1.8	5.3	1.2	3.2	11	11	47	7.0	1.3	1.6
29	1.2	.86	3.0	1.8	---	1.6	14	3.8	8.7	14	8.7	1.5
30	1.4	.86	3.0	1.4	---	1.4	12	7.5	3.6	3.2	38	14
31	1.6	---	1.5	1.4	---	1.3	---	2.7	---	2.3	3.6	---
TOTAL	60.2	119.74	169.49	94.62	67.58	58.28	223.81	231.2	207.4	164.1	128.3	99.0
MEAN	1.94	3.99	5.47	3.05	2.41	1.88	7.46	7.46	6.91	5.29	4.14	3.30
MAX	7.2	33	34	13	13	17	70	35	47	33	38	15
MIN	1.2	.86	.71	.71	.78	.78	.64	1.0	1.6	1.4	1.3	1.4
AC-FT	119	238	336	188	134	116	444	459	411	325	254	196

CAL YR 1980 TOTAL 1642.11 MEAN 4.49 MAX 78 MIN .35 AC-FT 3260
WTR YR 1981 TOTAL 1623.72 MEAN 4.45 MAX 70 MIN .64 AC-FT 3220

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899600 OKAT RIVER

LOCATION (REVISED).--Lat 05°19'11" N., long 162°58'19" E., Hydrologic Unit 20100006, on left bank 0.6 mi (1.0 km) upstream from mouth and 0.9 mi (1.4 km) north of Mount Okat.

DRAINAGE AREA.--1.94 mi² (5.02 km²), revised.

PERIOD OF RECORD.--July 1971 to current year.

REVISED RECORDS.--WDR Hawaii 1974: 1971-72(P), 1973(M).

GAGE.--Water-stage recorder. Altitude of gage is 13 ft (4.0 m), revised, from topographic map.

REMARKS.--Records poor. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 21.6 ft³/s (0.612 m³/s), 15,650 acre-ft/yr (19.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft³/s (30.0 m³/s) Aug. 2, 1976, gage height, 8.22 ft (2.505 m), from rating curve extended above 230 ft³/s (6.51 m³/s); minimum, 1.4 ft³/s (0.040 m³/s) Mar. 11, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*), from rating curve extended above 230 ft³/s (6.51 m³/s):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 3	2000	820	23.2	7.18	2.188	July 3	0400	792	22.4	7.06	2.152
Apr. 27	1000	*1030	29.2	*8.00	2.438	Aug. 30	0600	880	24.9	7.42	2.262
June 25	2100	815	23.1	7.16	2.182						

Minimum discharge, 2.8 ft³/s (0.079 m³/s) Oct. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	14	5.1	7.8	9.6	5.4	5.7	45	19	26	21	54
2	5.7	8.9	5.4	7.4	16	5.1	5.1	30	10	21	33	37
3	5.7	75	6.0	11	23	4.8	16	24	16	147	20	33
4	6.0	53	7.4	13	11	4.8	65	17	19	122	16	29
5	5.7	42	10	8.9	9.3	4.8	40	14	13	57	14	26
6	5.4	26	41	8.2	11	6.3	14	9.3	32	41	13	25
7	5.1	19	68	7.8	11	4.6	16	18	24	28	26	38
8	4.3	14	99	12	10	4.0	14	104	25	23	21	30
9	4.3	18	34	5.7	8.5	4.0	12	25	16	16	43	36
10	4.3	22	23	5.7	10	4.0	31	23	30	13	20	54
11	4.6	14	38	34	28	5.4	24	12	31	16	27	50
12	4.6	10	25	18	16	4.3	22	8.9	30	25	18	46
13	4.0	10	24	8.5	9.3	4.3	17	7.4	17	33	14	48
14	3.7	8.9	17	6.7	7.4	4.3	15	7.8	10	17	13	50
15	3.4	8.9	19	15	7.0	4.0	30	4.8	8.5	11	11	41
16	3.2	8.5	23	19	6.7	5.4	19	4.0	7.4	10	23	37
17	3.0	7.4	52	14	22	5.1	13	4.6	16	9.6	24	37
18	20	6.7	45	54	36	6.8	10	7.2	9.6	10	10	38
19	9.3	6.3	27	17	16	4.0	8.9	8.2	8.5	9.3	10	47
20	4.3	23	21	11	13	3.7	19	26	7.4	7.8	26	40
21	7.8	35	38	10	10	4.3	31	11	19	19	10	27
22	7.8	114	22	10	7.8	11	15	104	18	14	20	33
23	8.5	28	16	23	7.0	5.9	10	61	8.9	10	33	26
24	5.1	15	14	14	7.0	56	17	40	22	12	30	73
25	3.7	10	33	12	6.3	15	46	54	64	16	21	34
26	6.0	10	18	11	5.7	8.2	60	42	70	12	12	27
27	22	7.8	13	37	5.4	20	308	126	36	52	10	26
28	7.0	6.7	10	27	8.1	12	82	50	84	43	8.9	25
29	5.4	6.3	11	14	---	7.4	70	31	43	78	13	30
30	29	5.4	16	10	---	6.0	61	31	30	30	192	46
31	10	---	9.6	10	---	6.0	---	20	---	31	70	---
TOTAL	224.6	633.8	790.5	462.7	338.1	246.9	1096.7	970.2	752.3	959.7	822.9	1145
MEAN	7.25	21.1	25.5	14.9	12.1	7.96	36.6	31.3	25.1	31.0	26.5	38.2
MAX	29	114	99	54	36	56	308	126	84	147	192	73
MIN	3.0	5.4	5.1	5.7	5.4	3.7	5.1	4.0	7.4	7.8	8.9	25
AC-FT	445	1260	1570	918	671	490	2180	1920	1490	1900	1630	2270

CAL YR 1980 TOTAL 7998.8 MEAN 21.9 MAX 190 MIN 3.0 AC-FT 15870
WTR YR 1981 TOTAL 8443.4 MEAN 23.1 MAX 308 MIN 3.0 AC-FT 16750

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899620 MELO RIVER

LOCATION (REVISED).--Lat 05°20'30" N., long 162°58'33" E., Hydrologic Unit 20100006, on left bank 0.5 mi (0.8 km) upstream from mouth and 1.3 mi (2.1 km) southwest of Mount Mutunte.

DRAINAGE AREA.--0.68 mi^2 (1.76 km^2), revised.

PERIOD OF RECORD.--October 1974 to September 1979, June 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years, 6.97 ft^3/s (0.197 m^3/s), 5,050 acre-ft/yr (6.23 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 784 ft^3/s (22.2 m^3/s) Mar. 22, 1976, gage height, 5.78 ft (1.762 m), from rating curve extended above 17 ft^3/s (0.48 m^3/s); minimum, 0.58 ft^3/s (0.016 m^3/s) Mar. 19, 20, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s (8.50 m^3/s) and maximum (*) from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 18	1600	310	8.78	3.60	1.097	June 28	1900	530	15.0	4.44	1.353
Apr. 27	a1000	*a750	a21.2	-	-	July 3	0230	473	13.4	4.30	1.311
June 6	1200	443	12.5	4.15	1.265	Aug. 30	1900	626	17.7	4.81	1.466
June 25	1930	372	10.5	3.91	1.192						

Minimum discharge, 0.58 ft^3/s (0.016 m^3/s) Mar. 19, 20.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.5	1.3	2.4	2.9	1.7	1.8	17	7.0	8.2	4.7	5.8
2	1.0	2.1	1.4	2.1	7.4	1.5	1.6	11	6.0	7.8	9.4	4.6
3	.91	12	1.5	3.3	7.6	1.4	9.8	8.2	5.4	40	4.6	3.6
4	1.7	9.6	1.7	4.0	3.4	1.1	21	6.0	10	31	3.6	2.9
5	1.0	8.0	3.0	2.3	3.1	1.6	14	4.0	5.0	11	3.6	3.4
6	.80	6.0	6.0	2.1	4.0	3.2	5.6	3.0	20	7.2	2.9	2.4
7	.80	5.0	10	2.0	4.6	1.5	8.0	13	11	6.0	4.3	1.9
8	.74	3.9	20	3.0	4.6	1.1	6.2	37	11	5.0	5.2	1.7
9	1.4	5.0	10	1.7	3.1	1.0	5.6	13	8.5	4.1	9.3	2.5
10	2.2	6.0	6.0	2.5	3.1	1.0	13	7.0	14	3.6	5.6	7.5
11	1.5	4.5	9.0	10	7.6	1.2	7.9	4.7	15	5.3	7.8	5.9
12	1.4	3.3	7.2	5.0	4.5	1.1	9.3	3.7	12	11	4.6	2.8
13	.91	3.0	6.0	2.5	2.9	1.1	7.1	3.0	8.2	9.2	3.7	3.2
14	1.0	2.9	5.0	2.0	2.6	1.0	5.8	2.6	6.6	5.3	3.0	3.7
15	.91	2.7	6.0	4.5	2.4	1.0	7.0	1.9	5.8	3.6	4.5	3.3
16	.80	2.6	10	5.8	2.1	1.6	5.0	1.5	4.8	3.1	5.8	5.0
17	.80	2.2	14	4.0	8.7	1.4	4.3	1.9	9.9	2.8	7.0	6.0
18	4.2	2.0	12	14	15	.91	3.4	2.6	5.3	3.1	2.2	2.8
19	1.7	1.9	7.8	6.0	7.0	.69	2.9	4.0	5.9	2.2	3.1	17
20	1.5	6.0	6.0	3.2	4.6	.74	8.4	9.0	4.3	1.8	6.0	6.6
21	2.0	10	10	3.1	3.6	1.1	10	4.0	6.8	6.6	2.6	3.4
22	2.4	25	6.0	3.1	2.9	2.9	6.0	30	48	3.1	7.7	4.0
23	1.6	6.6	4.8	7.1	2.4	2.0	3.8	20	4.3	1.8	9.0	2.9
24	1.2	4.5	3.9	3.7	2.4	19	3.9	14	13	24	7.1	20
25	1.1	3.3	9.0	3.2	2.1	3.6	13	20	26	4.9	6.5	6.0
26	1.2	2.7	5.0	2.9	1.8	2.4	20	16	14	8.2	3.8	3.6
27	1.8	2.3	3.7	12	1.7	7.8	90	43	7.6	7.2	3.3	2.8
28	1.5	2.0	3.0	7.4	2.8	3.8	50	17	34	15	2.8	2.1
29	1.0	1.8	3.5	3.8	---	2.8	30	11	14	14	6.3	3.6
30	3.6	1.5	4.5	2.9	---	2.1	25	9.0	9.5	6.0	43	18
31	2.5	---	3.0	3.2	---	2.1	---	8.0	---	6.0	8.5	---
TOTAL	46.57	152.9	200.3	134.8	120.9	75.44	399.4	346.1	352.9	268.1	201.5	159.0
MEAN	1.50	5.10	6.46	4.35	4.32	2.43	13.3	11.2	11.8	8.65	6.50	5.30
MAX	4.2	25	20	14	15	19	90	43	48	40	43	20
MIN	.74	1.5	1.3	1.7	1.7	.69	1.6	1.5	4.3	1.8	2.2	1.7
AC-FT	92	303	397	267	240	150	792	686	700	532	400	315

WTR YR 1981 TOTAL 2457.91 MEAN 6.73 MAX 90 MIN .69 AC-FT 4880

NOTE.--No gage-height record Nov. 3 to Jan. 20, Apr. 27 to June 5.

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899750 MALEM RIVER

LOCATION (REVISED).--Lat 05°17'35" N., long 163°00'54" E., Hydrologic Unit 20100006, on left bank 0.9 mi (1.4 km) upstream from mouth and 2.0 mi (3.2 km) southeast of Mount Finkol.

DRAINAGE AREA.--0.76 mi^2 (1.97 km^2), revised.

PERIOD OF RECORD.--July 1971 to March 1981.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 95 ft (29 m) from stadia survey.

REMARKS.--Records fair. Water is diverted through 6-in (0.2-m) pipe from dam above station for domestic use in village of Malem. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 7.17 ft^3/s (0.203 m^3/s), 5,190 acre-ft/yr (6.40 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft^3/s (43.9 m^3/s) Mar. 22, 1976, gage height, 6.20 ft (1.890 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s); minimum, 0.14 ft^3/s (0.004 m^3/s) Nov. 20, 1974, during flushing at dam upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October 1980 to March 1981, 352 ft^3/s (9.97 m^3/s), Nov. 3, gage height, 4.58 ft (1.396 m), from rating curve extended as explained above, no other peak above base of 350 ft^3/s (9.91 m^3/s); minimum, 0.05 ft^3/s (0.010 m^3/s) Mar. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.5	1.4	2.5	2.1	1.1						
2	1.4	1.7	1.7	2.6	3.7	.92						
3	1.4	22	1.5	2.4	4.2	1.0						
4	1.9	11	1.7	2.5	3.7	.92						
5	1.4	15	3.9	2.0	2.1	.84						
6	1.1	7.6	9.4	3.5	2.0	1.7						
7	.84	4.1	29	2.3	1.9	.92						
8	1.0	2.9	30	3.8	1.9	.77						
9	1.4	2.5	9.0	2.0	1.7	.77						
10	1.6	2.9	5.3	2.8	2.1	.77						
11	1.1	3.3	14	11	5.9	.84						
12	.92	2.0	7.7	4.1	2.4	.77						
13	.84	2.5	5.5	2.4	1.6	.77						
14	.84	1.7	3.9	2.9	1.4	.71						
15	.84	4.1	4.0	4.1	1.4	.84						
16	.90	2.3	6.3	4.6	1.2	1.3						
17	.84	2.3	12	4.4	3.6	1.2						
18	4.8	2.8	16	24	10	3.0						
19	1.7	1.5	7.2	5.9	4.9	.84						
20	.84	1.8	4.9	3.5	2.5	.71						
21	1.9	4.5	11	2.8	1.8	.60						
22	8.1	27	7.0	2.6	1.6	9.4						
23	2.6	5.7	4.4	10	1.4	2.4						
24	1.5	3.2	5.6	2.9	1.5	32						
25	1.6	2.6	10	2.6	1.4	6.2						
26	3.3	2.4	7.7	2.3	1.3	2.8						
27	5.6	1.9	4.3	13	1.2	6.4						
28	3.5	1.8	3.3	7.4	1.2	4.4						
29	1.7	1.6	3.2	3.3	---	2.4						
30	4.3	1.6	3.3	2.6	---	1.7						
31	3.5	---	2.8	2.6	---	1.6						
TOTAL	64.86	148.8	237.0	145.4	71.7	90.59						
MEAN	2.09	4.96	7.65	4.69	2.56	2.92						
MAX	8.1	27	30	24	10	32						
MIN	.84	1.5	1.4	2.0	1.2	.60						
AC-FT	129	295	470	288	142	180						

CAL YR 1980 TOTAL 2373.36 MEAN 6.48 MAX 77 MIN .84 AC-FT 4710

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899800 TOFOL RIVER

LOCATION (REVISED).--Lat 05°19'10" N., long 163°00'24" E., Hydrologic Unit 20100006, on left bank 25 ft (7.6 m) downstream from right-bank tributary, 0.9 mi (1.4 km) upstream from mouth, and 1.3 mi (2.1 km) northeast of Mount Finkol.

DRAINAGE AREA.--0.53 mi^2 (1.37 km^2), revised.

PERIOD OF RECORD.--June 1971 to September 1979, March 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 98 ft (29.9 m) from stadia survey.

REMARKS.--Records fair to poor. Water is diverted through 8-in (20-cm) pipe from dam above station for domestic use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 5.93 ft^3/s (0.168 m^3/s), 4,300 acre-ft/yr (5.30 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft^3/s (36.5 m^3/s) Apr. 27, 1981, gage height, 5.58 ft (1.700 m), from rating curve extended above 79 ft^3/s (2.24 m^3/s); minimum, 0.58 ft^3/s (0.016 m^3/s) Oct. 16, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft^3/s (12.7 m^3/s), and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 3	1930	710	20.1	4.66	1.420	Apr. 27	0900	*1290	36.5	*5.58	1.700
Nov. 22	0900	655	18.6	4.55	1.387	July 3	0500	745	21.1	4.73	1.442

Minimum discharge, 0.58 ft^3/s (0.016 m^3/s) Oct. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	5.9	2.1	2.7	2.5	1.2	1.5	10	8.9	6.2	3.8	3.8
2	1.4	3.5	2.0	2.7	6.4	1.2	1.3	8.1	8.9	4.8	9.5	2.9
3	1.3	24	1.9	2.9	6.6	1.0	5.3	7.8	6.4	33	4.8	2.9
4	1.8	11	2.2	3.4	4.5	.94	17	6.2	5.0	27	3.3	2.8
5	1.4	14	3.1	2.6	3.1	1.0	9.9	5.0	4.5	11	2.8	2.6
6	1.2	7.8	9.7	3.1	2.7	1.5	7.2	4.2	8.4	7.6	2.5	2.6
7	1.1	5.5	18	2.8	2.8	1.0	4.4	7.3	7.8	5.7	8.1	3.3
8	.82	4.2	19	5.6	2.7	.88	3.8	37	8.1	4.7	11	2.7
9	1.1	3.5	8.1	2.9	2.2	.82	3.5	9.2	4.7	4.0	13	2.5
10	1.1	3.9	5.7	2.9	2.5	.88	5.8	8.2	13	3.3	6.2	11
11	2.6	3.2	10	8.8	6.7	1.1	4.9	5.5	12	6.4	5.0	7.1
12	1.2	2.7	6.4	4.3	2.7	1.0	4.9	4.3	12	5.0	3.2	3.5
13	.94	3.1	6.2	2.7	2.0	1.0	3.9	4.5	5.7	7.8	3.1	3.8
14	.76	2.5	4.7	2.8	1.9	1.1	3.8	4.0	4.8	5.0	2.8	4.7
15	.88	4.4	4.3	3.7	1.8	1.3	7.1	3.3	4.5	2.9	5.7	5.2
16	.70	3.0	5.9	4.9	1.7	2.0	4.3	3.1	3.8	2.3	2.3	4.3
17	.82	2.8	11	3.6	3.5	1.5	3.1	3.1	7.3	2.1	3.3	5.5
18	5.5	2.1	12	16	8.7	3.8	2.6	3.5	3.5	2.3	1.9	9.2
19	1.6	1.9	6.4	4.5	3.5	1.2	2.2	3.6	3.5	1.9	2.7	6.4
20	1.2	6.8	5.0	3.3	3.5	1.0	4.8	15	2.9	1.6	1.9	4.3
21	2.5	6.6	11	2.8	2.3	.94	6.2	4.8	8.1	5.7	1.6	3.3
22	4.3	35	6.4	2.6	2.0	3.0	4.4	31	7.3	7.3	1.7	2.9
23	1.9	7.1	4.7	7.3	1.7	2.7	2.8	18	3.8	2.5	5.9	2.6
24	1.4	4.8	4.3	3.1	1.9	21	4.0	13	12	2.6	4.8	12
25	1.9	4.2	8.7	2.9	1.8	4.5	10	20	22	3.2	4.2	4.0
26	5.2	3.5	5.7	2.6	1.5	2.2	15	16	12	3.8	2.2	3.2
27	7.1	3.1	3.8	12	1.3	4.6	95	34	5.7	15	1.9	2.6
28	3.3	2.7	3.3	6.5	1.5	3.2	21	16	24	13	1.5	2.5
29	2.0	2.5	4.1	3.6	---	2.0	24	10	9.5	16	1.9	2.9
30	11	2.5	3.6	2.8	---	1.8	17	17	5.9	5.7	26	4.3
31	3.8	---	3.1	2.9	---	1.7	---	8.4	---	4.7	5.0	---
TOTAL	73.32	187.8	202.4	135.3	86.0	73.06	300.7	341.1	246.0	224.1	153.6	131.4
MEAN	2.37	6.26	6.53	4.36	3.07	2.36	10.0	11.0	8.20	7.23	4.95	4.38
MAX	11	35	19	16	8.7	21	95	37	24	33	26	12
MIN	.70	1.9	1.9	2.6	1.3	.82	1.3	3.1	2.9	1.6	1.5	2.5
AC-FT	145	373	401	268	171	145	596	677	488	445	305	261

WTR YR 1981 TOTAL 2154.78 MEAN 5.90 MAX 95 MIN .70 AC-FT 4270

SAMOA ISLANDS, ISLAND OF TUTUILA

16912000 PAGO STREAM AT AFONO

LOCATION.--Lat 14°16'03" S., long 170°39'02" W., Hydrologic Unit 20100001, on left bank 0.2 mi (0.3 km) south of Afono and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.60 mi² (1.55 km²).

PERIOD OF RECORD.--October 1958 to current year. Prior to July 1960, published as Afono Stream at Afono.

REVISED RECORDS.--WSP 1937: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 30 ft (9 m), from topographic map.

REMARKS.--Records good except for periods of backwater and no gage-height record, which are fair. About 0.06 ft³/s (0.002 m³/s) is diverted above station for domestic use in Afono. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--22 years (water years 1960-81), 3.47 ft³/s (0.098 m³/s), 2,510 acre-ft/yr (3.09 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,350 ft³/s (38.2 m³/s) July 5, 1969, gage height, 5.49 ft (1.673 m), from rating curve extended above 52 ft³/s (1.47 m³/s); minimum, 0.15 ft³/s (0.004 m³/s) Oct. 25, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 210 ft³/s (5.95 m³/s), from rating curve extended above 52 ft³/s (1.47 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 9	1330	498	14.1	4.12	1.256	Mar. 2	1430	318	9.01	3.66	1.116
Oct. 16	1430	285	8.07	3.55	1.082	Mar. 24	1800	582	16.5	4.33	1.320
Dec. 15	0630	645	18.3	4.47	1.362	Apr. 23	1800	*1104	31.3	*5.34	1.628
Feb. 14	0500	246	6.97	3.42	1.042	Aug. 21	0600	252	7.14	3.44	1.049

Minimum discharge, 0.71 ft³/s (0.020 m³/s) Jan. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	2.0	1.4	1.1	1.0	2.0	2.9	2.4	2.2	2.4	2.6	1.8
2	8.7	1.8	1.2	3.7	.79	64	2.9	2.3	1.5	2.4	2.3	1.5
3	6.5	1.5	5.4	10	1.4	11	2.4	2.6	1.4	1.8	2.0	1.4
4	37	1.4	8.5	4.7	1.1	5.9	2.2	2.2	1.4	1.4	1.9	1.4
5	13	9.9	4.9	3.4	.95	3.6	2.3	2.3	1.2	1.2	1.5	1.3
6	6.7	3.4	2.4	2.3	.95	5.7	1.9	2.2	1.2	1.2	1.4	1.1
7	5.9	26	4.7	7.9	.95	19	2.4	2.0	1.1	1.2	1.4	1.4
8	4.7	6.5	4.5	2.4	1.0	8.4	7.8	1.9	1.1	1.2	1.3	5.5
9	56	5.4	26	1.8	1.3	3.6	4.0	1.8	1.1	1.2	1.1	9.4
10	8.7	4.9	4.9	1.8	1.5	2.6	3.8	2.2	1.0	1.1	1.1	5.4
11	5.9	3.4	3.1	1.4	16	2.4	3.1	3.6	1.0	1.1	1.0	5.3
12	4.2	2.6	2.7	1.4	4.0	2.0	2.4	2.2	1.2	1.0	.95	4.5
13	4.9	2.3	2.3	1.2	2.2	1.8	2.2	3.8	6.6	1.0	.95	2.4
14	4.7	2.2	1.9	1.1	36	1.5	2.0	4.9	5.3	1.1	1.3	2.3
15	4.4	1.9	98	1.0	6.5	1.5	2.0	4.0	8.0	1.1	1.3	1.9
16	39	1.8	8.7	1.3	4.2	2.4	6.0	3.6	4.1	1.0	.95	1.8
17	12	1.6	4.9	1.2	3.4	25	4.0	2.9	2.7	1.0	.95	1.6
18	6.7	2.3	3.1	1.0	11	8.2	2.7	2.4	1.9	1.0	5.6	1.4
19	5.4	2.8	2.4	.95	12	7.0	2.2	2.2	1.9	.95	3.4	4.6
20	4.5	3.6	2.0	.87	20	4.0	2.3	4.7	1.6	1.0	13	3.1
21	10	4.7	1.9	.87	7.9	4.5	2.6	4.2	4.6	4.4	68	2.0
22	8.3	3.4	1.8	.79	4.5	6.8	26	2.6	2.7	53	12	1.5
23	6.7	2.2	1.8	2.0	3.6	6.5	63	2.0	1.9	12	4.7	1.4
24	14	1.8	1.6	2.0	3.1	104	33	2.6	1.5	4.2	4.2	1.3
25	5.2	1.5	1.6	1.5	2.4	36	8.7	2.6	1.4	4.5	4.5	1.8
26	4.3	1.3	1.6	1.2	2.3	9.1	3.8	2.2	1.3	32	14	1.2
27	5.9	1.3	1.5	1.0	2.0	5.7	4.3	3.6	1.3	15	4.5	1.0
28	3.4	1.3	1.3	3.3	1.8	10	3.5	2.7	4.9	9.9	2.7	.95
29	2.7	1.2	1.2	5.7	---	6.7	3.1	2.0	2.7	12	1.6	.95
30	2.2	1.2	1.2	2.0	---	4.2	2.7	1.6	2.2	5.2	1.4	.87
31	2.3	---	1.0	1.2	---	3.1	---	1.5	---	4.7	1.5	---
TOTAL	316.9	107.2	209.5	72.08	153.84	378.2	212.2	83.8	72.0	182.25	165.10	72.07
MEAN	10.2	3.57	6.76	2.33	5.49	12.2	7.07	2.70	2.40	5.88	5.33	2.40
MAX	56	26	98	10	36	104	63	4.9	8.0	53	68	9.4
MIN	2.2	1.2	1.0	.79	.79	1.5	1.9	1.5	1.0	.95	.95	.87
AC-FT	629	213	416	143	305	750	421	166	143	361	327	143

CAL YR 1980 TOTAL 1685.31 MEAN 4.60 MAX 98 MIN .63 AC-FT 3340
WTR YR 1981 TOTAL 2025.14 MEAN 5.55 MAX 104 MIN .79 AC-FT 4020

SAMOA ISLANDS, ISLAND OF TUTUILA

16920500 AASU STREAM AT AASU

LOCATION.--Lat 14°17'51" S., long 170°45'30" W., Hydrologic Unit 20100001, on right bank at Aasu and 200 ft (61 m) upstream from mouth.

DRAINAGE AREA.--1.03 mi^2 (2.67 km^2).

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1937: Drainage area. WSP 2137: 1959-60(P), 1961(M), 1962-65(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5 ft (1.5 m) by hand levels from high-tide mark.

REMARKS.--Records good. Small diversion above station for domestic use. Recording rain gage located at station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--22 years (water years 1960-81), 6.12 ft^3/s (0.173 m^3/s), 4,430 acre-ft/yr (5,46 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 498 ft^3/s (14.1 m^3/s) Sept. 7, 1972, gage height, 5.16 ft (1.573 m), from rating curve extended above 20 ft^3/s (0.57 m^3/s) on basis of slope-area measurement at gage height 4.57 ft (1.393 m); minimum, 0.12 ft^3/s (0.003 m^3/s) Oct. 21, 23, 24, 27, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 180 ft^3/s (5.10 m^3/s), from rating curve extended as explained above and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 15	0830	293	8.30	4.21	1.283
Mar. 17	0300	*394	11.2	*4.73	1.442
July 26	0800	286	8.10	4.17	1.271

Minimum discharge, 1.6 ft^3/s (0.045 m^3/s) July 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	3.8	1.8	3.2	5.2	4.9	9.2	7.8	6.7	5.2	9.9	7.4
2	16	3.6	1.8	3.2	4.1	38	8.5	9.5	4.6	4.1	8.5	6.4
3	13	3.4	3.3	3.8	4.9	18	7.1	7.1	3.8	3.8	7.4	5.8
4	15	3.2	5.3	2.7	4.1	12	6.4	6.4	3.6	3.6	6.4	4.9
5	15	4.3	5.1	8.4	3.6	10	6.5	7.8	3.4	3.4	5.8	4.3
6	14	3.2	3.2	4.8	3.8	9.5	5.2	6.1	3.2	3.2	5.2	3.8
7	12	4.6	2.5	4.1	3.6	9.5	7.2	4.9	3.0	3.0	4.6	5.2
8	11	3.4	2.4	4.6	6.6	9.2	9.8	4.1	2.8	2.8	4.1	4.9
9	20	3.4	17	3.0	4.3	8.1	6.7	4.3	2.8	2.8	3.4	4.6
10	19	11	6.1	3.6	3.8	6.4	6.9	5.2	2.7	2.7	3.2	3.8
11	13	7.1	4.6	2.7	17	5.5	6.7	11	2.5	2.5	3.0	6.7
12	11	4.6	4.9	4.5	12	4.9	6.1	6.4	2.7	2.4	2.8	15
13	16	3.8	4.1	2.8	8.1	4.3	5.5	12	7.0	2.4	2.8	11
14	12	3.4	14	2.4	9.5	3.8	4.9	12	3.6	2.2	2.8	15
15	13	3.2	54	2.2	8.1	3.6	5.5	8.5	14	2.1	6.8	10
16	30	3.2	21	2.7	6.7	7.2	6.1	9.0	8.8	2.1	3.0	8.5
17	23	3.4	15	2.5	6.4	64	5.2	7.4	6.4	2.1	2.7	7.8
18	17	3.0	12	2.2	10	21	4.3	15	4.9	1.9	3.0	7.1
19	14	3.6	12	2.1	13	21	4.1	13	5.8	1.7	3.6	7.8
20	12	3.4	9.5	2.1	22	14	5.1	12	6.8	1.6	8.9	6.4
21	15	3.0	8.1	2.1	14	13	4.9	10	5.2	4.5	34	6.4
22	11	2.8	7.1	1.9	10	12	31	9.5	4.3	30	20	6.1
23	9.5	2.5	6.1	7.9	8.8	12	33	8.8	3.8	18	12	4.9
24	9.9	2.7	5.5	4.3	8.1	48	33	9.5	4.6	12	14	4.1
25	8.1	2.4	5.5	3.2	6.7	48	19	8.1	3.6	11	14	3.8
26	7.4	2.3	4.3	3.6	6.1	23	16	7.4	3.6	58	26	3.4
27	6.7	2.1	3.8	2.8	5.2	18	13	7.4	3.4	25	16	3.2
28	5.8	2.1	3.4	6.2	4.6	14	11	6.4	10	26	12	3.0
29	5.2	1.9	2.6	10	---	14	9.9	5.5	7.4	18	11	2.8
30	4.9	1.9	2.7	6.7	---	10	8.5	4.6	5.2	14	9.5	2.7
31	4.3	---	3.6	4.9	---	9.5	---	4.1	---	11	8.5	---
TOTAL	394.8	106.3	252.5	121.2	220.3	496.4	306.3	250.8	150.4	283.1	274.9	186.8
MEAN	12.7	3.54	8.15	3.91	7.87	16.0	10.2	8.09	5.01	9.13	8.87	6.23
MAX	30	11	54	10	22	64	33	15	14	58	34	15
MIN	4.3	1.9	1.8	1.9	3.6	3.6	4.1	4.1	2.5	1.6	2.7	2.7
AC-FT	783	211	501	240	437	985	608	497	298	562	545	371

CAL YR 1980 TOTAL 2440.1 MEAN 6.67 MAX 54 MIN 1.0 AC-FT 4840
WTR YR 1981 TOTAL 3043.8 MEAN 8.34 MAX 64 MIN 1.6 AC-FT 6040

SAMOA ISLANDS, ISLAND OF TUTUILA

16931000 ATAULOMA STREAM AT AFAO

LOCATION.--Lat 14°20'10" S., long 170°48'02" W., Hydrologic Unit 20100001, on left bank at Afao, 100 ft (30 m) upstream from highway bridge, and 300 ft (91 m) upstream from mouth.

DRAINAGE AREA.--0.24 mi^2 (0.62 km^2).

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1937: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6 m) by hand levels from high-tide mark.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--22 years (water years 1960-81), 1.45 ft^3/s (0.041 m^3/s), 1,050 acre-ft/yr (1.29 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 815 ft^3/s (23.1 m^3/s) Oct. 28, 1979, gage height, 4.47 ft (1.362 m), from rating curve extended above 30 ft^3/s (0.85 m^3/s); minimum, 0.04 ft^3/s (0.001 m^3/s) Oct. 24-26, Oct. 28-31, Nov. 1, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 160 ft^3/s (4.53 m^3/s), from rating curve extended above 30 ft^3/s (0.85 m^3/s), and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 4	1500	*429	12.1	*3.54	1.079	Feb. 20	1300	184	5.21	2.64	0.805
Oct. 13	1200	197	5.58	2.71	.826	Mar. 17	0300	315	8.92	3.20	.975
Oct. 21	0030	169	4.79	2.56	.780	Apr. 22	0300	258	7.31	2.97	.905
Dec. 9	0600	373	10.6	3.38	1.030	Apr. 23	1630	295	8.35	3.12	.951
Dec. 15	1000	171	4.84	2.57	.783	July 26	0800	273	7.73	3.03	.924

Minimum discharge, 0.17 ft^3/s (0.005 m^3/s) Jan. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	.64	.30	.33	.54	.49	3.4	1.0	1.7	1.3	1.1	.74
2	3.0	.54	.27	.27	.33	15	2.1	1.1	.69	.74	1.0	.64
3	1.9	.54	.44	.58	1.1	3.1	1.5	.80	.59	.59	.87	.59
4	24	.49	.54	.24	.49	1.7	1.4	.80	.54	.54	.74	.54
5	3.9	.64	.67	.27	.33	1.1	3.2	.94	.49	.44	.69	.54
6	2.1	.40	.33	.21	.44	.87	1.3	.74	.44	.40	.59	.49
7	1.3	.54	.24	.24	.44	.80	1.7	.69	.40	.40	.54	.73
8	1.3	.40	.33	.51	.95	1.2	2.6	.64	.40	.36	.49	.59
9	12	.33	23	.27	.54	.74	1.6	.59	.36	.40	.44	.54
10	2.5	9.0	.94	.30	1.4	.64	1.3	.80	.36	.44	.44	.64
11	1.5	1.9	.44	.19	6.8	.59	1.8	2.0	.40	.36	.44	.49
12	1.1	.87	.40	.21	2.2	.54	1.5	.87	.36	.33	.40	.96
13	8.4	.69	.36	.19	1.2	.64	1.2	4.9	3.1	.36	.44	1.4
14	1.5	.54	6.8	.19	1.3	.44	1.0	3.9	.94	.33	.86	4.0
15	1.4	.49	21	.17	.80	.36	1.1	1.0	12	.33	.80	1.3
16	25	.80	2.8	.37	.59	.83	1.7	.69	1.6	.30	.40	.80
17	4.3	.44	1.6	.19	.54	26	2.4	.54	.87	.33	.36	.59
18	2.3	.36	1.1	.61	1.9	6.6	1.3	1.7	.69	.40	1.6	.54
19	1.8	.44	1.2	.36	2.6	4.4	1.0	1.5	.87	.30	1.5	.64
20	2.0	.49	1.2	.38	8.7	3.2	3.6	2.7	.74	.27	1.5	.49
21	7.0	.36	.64	.49	2.2	2.6	1.9	1.3	1.5	2.6	16	.44
22	3.1	.30	.59	.21	1.2	2.4	16	.80	.74	17	4.7	.49
23	1.9	.27	.40	1.4	.87	1.9	35	.54	.59	3.4	2.0	.24
24	1.9	.30	.36	.80	.69	15	11	1.3	1.1	1.6	2.1	.27
25	1.2	.27	.33	.40	.59	20	2.8	.54	.59	1.2	1.9	.33
26	.94	.33	.33	1.4	.49	2.6	2.4	.54	.49	36	4.4	.24
27	.87	.24	.27	.49	.44	2.1	2.9	.88	.44	4.5	2.1	.24
28	.80	.24	.24	1.6	.36	1.7	1.7	.59	1.7	5.6	1.5	.24
29	.64	.24	.27	1.8	---	1.5	1.6	.54	1.0	3.1	1.1	.24
30	.70	.24	.24	.87	---	1.1	1.2	.44	3.3	2.0	.87	.24
31	.69	---	.54	.49	---	1.8	---	.36	---	1.5	.80	---
TOTAL	131.04	23.33	68.17	16.03	40.03	121.94	113.2	35.73	38.99	87.42	52.67	20.22
MEAN	4.23	.78	2.20	.52	1.43	3.93	3.77	1.15	1.30	2.82	1.70	.67
MAX	25	9.0	23	1.8	8.7	26	35	4.9	12	36	16	4.0
MIN	.64	.24	.24	.17	.33	.36	1.0	.36	.36	.27	.36	.24
AC-FT	260	46	135	32	79	242	225	71	77	173	104	40

CAL YR 1980 TOTAL 544.30 MEAN 1.49 MAX 25 MIN .12 AC-FT 1080
WTR YR 1981 TOTAL 748.77 MEAN 2.05 MAX 36 MIN .17 AC-FT 1490

SAMOA ISLANDS, ISLAND OF TUTUILA

16931500 ASILI STREAM AT ALTITUDE 330 FT (100 M) NEAR ASILI

LOCATION.--Lat 14°19'34" S., long 170°47'38" W., Hydrologic Unit 20100001, on right bank 1.3 mi (2.1 km) northwest of Leone, 1.5 mi (2.4 km) southwest of Aoloaufou and 0.8 mi (1.2 km) upstream from mouth.

DRAINAGE AREA.--0.32 mi² (0.83 km²).

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 330 ft (100 m), from topographic map.

REMARKS.--Records fair. Periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 635 ft³/s (18.0 m³/s), Oct. 28, 1980, gage height, 4.73 ft (1.442 m), from rating curve extended above 14 ft³/s (0.40 m³/s); minimum, 0.48 ft³/s (0.014 m³/s) July 19, 20, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 205 ft³/s (5.81 m³/s) revised, and maximum (*), from rating curve extended above 14 ft³/s (0.40 m³/s):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 13	1200	252	7.14	3.69	1.125	Mar. 17	0400	*416	11.8	*4.23	1.289
Dec. 15	0900	220	6.23	3.56	1.085	July 26	0800	240	6.80	3.64	1.109

Minimum discharge, 0.64 ft³/s (0.018 m³/s) July 19-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	1.1	1.0	1.2	2.1	1.7	2.7	2.1	2.5	2.6	2.3	1.5
2	6.4	.98	.98	1.2	1.6	13	2.2	2.3	1.2	1.8	1.9	1.3
3	5.5	.91	1.6	1.5	2.7	7.1	1.8	1.7	1.1	1.6	1.7	1.2
4	11	.88	1.9	.98	1.6	4.6	1.7	1.7	1.0	1.5	1.5	1.0
5	6.7	1.2	1.9	.98	1.4	3.3	2.4	1.6	.98	1.5	1.3	.95
6	5.1	.84	1.2	1.1	1.4	2.6	1.6	1.5	.95	1.2	1.3	.91
7	3.6	1.3	1.0	1.1	1.5	2.3	1.8	1.4	.88	1.2	1.2	1.4
8	3.3	.81	1.4	1.6	2.4	3.1	2.6	1.3	.84	1.0	1.1	1.2
9	10	.88	9.4	.95	1.7	2.0	1.8	1.5	.81	.98	1.0	1.1
10	5.5	7.1	2.5	1.2	2.5	1.7	1.6	1.7	.78	.95	.98	.88
11	3.9	2.9	1.9	.91	8.1	1.4	2.0	4.0	.74	.88	.91	.78
12	3.9	1.9	1.7	1.1	5.4	1.4	1.6	2.2	.78	.84	.88	1.8
13	7.3	1.5	1.7	.88	3.6	1.3	1.5	4.4	3.1	.81	.84	2.2
14	4.2	1.4	8.6	.81	3.7	1.2	1.4	5.1	1.3	.78	1.6	4.7
15	3.8	1.4	23	.81	2.6	1.1	1.5	3.2	8.4	.74	3.6	2.3
16	15	1.4	8.2	1.1	2.2	2.3	1.5	2.6	2.9	.72	1.1	1.8
17	8.2	1.4	5.5	.81	1.9	28	1.6	2.2	2.0	.74	1.0	1.7
18	5.5	1.3	3.8	1.1	3.3	7.1	1.3	5.3	1.7	.88	9.6	1.5
19	4.2	1.5	3.7	.84	4.4	6.5	1.2	4.1	3.2	.67	1.9	1.6
20	4.1	1.5	3.0	1.2	8.4	4.3	8.7	4.7	1.8	.71	2.7	1.3
21	5.2	1.2	2.2	1.2	5.5	3.9	1.7	3.3	2.0	2.7	19	1.3
22	3.6	1.2	1.9	.81	4.0	3.7	12	2.7	1.5	15	8.0	1.3
23	2.7	1.2	1.7	3.2	3.0	4.0	22	2.4	1.3	7.1	4.9	1.1
24	2.9	1.2	1.6	1.6	2.3	15	14	2.9	2.1	4.4	4.7	1.1
25	2.2	1.2	1.5	1.2	1.9	17	7.1	2.1	1.3	3.7	4.2	1.1
26	1.8	1.2	1.4	2.9	1.7	7.6	5.2	2.3	1.2	24	9.4	.95
27	1.6	1.1	1.3	1.4	1.5	5.3	4.3	2.4	1.2	8.6	5.5	.95
28	1.4	1.0	1.2	2.3	1.4	3.9	3.3	1.8	3.3	9.7	3.8	.88
29	1.3	.98	1.2	3.5	---	3.0	2.7	1.6	2.0	5.6	2.6	.84
30	1.2	.98	1.1	1.9	---	2.3	2.3	1.5	1.7	4.2	2.1	.81
31	1.2	---	1.4	1.8	---	3.2	---	1.4	---	2.9	1.7	---
TOTAL	146.5	43.46	100.48	42.98	83.8	164.9	117.3	79.0	54.56	109.80	104.31	41.45
MEAN	4.73	1.45	3.24	1.39	2.99	5.32	3.91	2.55	1.82	3.54	3.36	1.38
MAX	15	7.1	23	3.3	8.4	28	22	5.3	8.4	24	19	4.7
MIN	1.2	.81	.98	.81	1.4	1.1	1.2	1.3	.74	.67	.84	.78
AC-FT	291	86	199	85	166	327	233	157	108	218	207	82

CAL YR 1980 TOTAL 979.12 MEAN 2.68 MAX 25 MIN .58 AC-FT 1940
WTR YR 1981 TOTAL 1088.54 MEAN 2.98 MAX 28 MIN .67 AC-FT 2160

SAMOA ISLANDS, ISLAND OF TUTUILA

16933500 LEAFU STREAM AT ALTITUDE 370 FT (113 M) NEAR LEONE

LOCATION.--Lat 14°19'31" S., long 170°46'50" W., Hydrologic Unit 20100001, on left bank 900 ft (274 m) upstream from village stream intake, 1.1 mi (1.8 km) north of Leone, and 1.0 mi (1.6 km) southwest of Aoloaufou.

DRAINAGE AREA.--0.31 mi² (0.80 km²).

PERIOD OF RECORD.--October 1977 to current year.

REVISED RECORDS.--WDR HI-79-2: 1978 (P).

GAGE.--Water-stage recorder. Altitude of gage is 370 ft (113 m), from topographic map.

REMARKS.--Records good. Periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 370 ft³/s (10.48 m³/s) Mar. 17, 1981, gage height, about 6.4 ft (1.95 m), from rating curve extended above 48.0 ft³/s (1.36 m³/s); minimum, 0.71 ft³/s (0.020 m³/s) July 18-20, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 160 ft³/s (4.53 m³/s) revised, and maximum (*) from rating curve extended as explained above:

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 13	1200	180	5.10	4.50	1.372	Mar. 17	0400	*a370	10.48	a6.4	1.95
Dec. 9	0430	176	4.98	4.46	1.359	Apr. 23	2200	180	5.10	4.50	1.372
Dec. 15	0900	176	4.98	4.46	1.359	July 26	0730	a330	9.35	-	-
Mar. 2	0900	177	5.01	4.47	1.362	Aug. 21	1400	180	5.10	4.50	1.372

Minimum discharge, 0.94 ft³/s (0.027 m³/s) Jan. 20.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	2.0	1.2	1.6	3.9	2.7	4.9	3.8	4.5	3.9	5.3	3.2
2	9.6	1.9	1.2	1.7	2.9	39	4.1	5.7	2.7	3.0	4.0	2.8
3	7.5	1.8	1.8	2.0	3.8	18	3.5	3.4	2.4	2.7	3.3	2.4
4	21	1.7	2.7	1.5	2.8	10	2.6	3.0	2.2	2.5	3.1	2.2
5	15	2.3	4.0	1.4	2.4	6.4	9.0	3.0	2.0	2.3	2.7	2.0
6	11	1.7	1.6	1.5	2.4	5.0	3.5	2.7	1.9	2.0	2.3	1.8
7	7.2	2.5	1.4	1.4	2.5	4.5	4.1	2.5	1.6	2.0	2.2	2.6
8	6.3	1.7	1.5	1.6	2.9	4.8	7.3	2.4	1.8	1.8	1.9	2.2
9	22	2.8	16	1.2	2.3	3.5	4.1	2.6	1.7	1.8	1.8	2.0
10	12	15	3.5	1.5	3.5	2.9	8.2	2.8	1.7	1.7	1.7	1.8
11	8.3	4.6	3.1	1.1	14	2.7	7.3	7.3	1.6	1.6	1.6	1.6
12	6.1	3.2	2.8	1.8	8.6	2.5	5.3	3.8	1.6	1.5	1.4	4.5
13	12	2.8	2.5	1.2	5.0	2.2	4.3	7.8	5.4	1.5	1.4	3.7
14	6.6	2.6	9.5	1.1	7.4	2.0	3.2	9.8	2.5	1.4	2.5	17
15	6.7	2.5	39	1.0	5.0	2.0	3.6	5.4	17	1.4	6.1	6.2
16	25	2.3	17	1.4	4.1	5.1	3.6	4.7	4.9	1.3	1.8	4.7
17	14	2.3	9.5	1.2	3.6	85	3.3	4.1	3.8	1.3	1.6	3.9
18	8.1	1.9	6.4	1.2	5.7	28	2.6	9.9	3.4	1.7	3.5	3.3
19	6.4	2.5	5.0	1.0	7.1	20	2.8	7.0	3.7	1.3	2.8	3.2
20	6.9	2.1	4.0	1.2	16	12	4.0	11	3.5	1.2	7.6	2.6
21	6.7	2.0	3.3	1.3	9.3	10	3.4	6.9	2.9	6.0	37	2.5
22	5.3	1.6	2.8	1.0	6.6	8.8	27	5.6	2.5	37	23	2.2
23	3.9	1.5	2.5	5.6	5.4	6.2	36	4.9	2.3	19	12	1.9
24	4.3	1.5	2.2	2.6	4.3	48	39	5.4	2.9	10	12	1.8
25	3.3	1.4	1.9	1.8	3.5	65	21	3.9	2.1	7.7	6.5	1.8
26	3.1	1.3	1.8	3.8	3.1	32	13	3.9	2.0	53	21	1.6
27	3.0	1.3	1.7	2.0	2.7	18	7.6	4.9	2.1	25	12	1.6
28	2.8	1.2	1.6	4.9	2.4	12	6.1	3.5	5.7	26	8.1	1.5
29	2.6	1.2	1.5	6.2	---	8.1	4.9	3.0	3.5	13	5.9	1.4
30	2.4	1.1	1.4	3.7	---	5.6	4.3	2.7	4.8	8.5	4.7	1.3
31	2.2	---	2.0	3.4	---	6.1	---	2.5	---	6.1	3.6	---
TOTAL	260.4	74.3	156.4	63.9	143.9	478.1	253.8	149.9	100.9	249.2	206.6	91.3
MEAN	8.40	2.48	5.05	2.06	5.14	15.4	8.46	4.84	3.36	8.04	6.66	3.04
MAX	25	15	39	6.2	16	85	39	11	17	53	37	17
MIN	2.2	1.1	1.2	1.0	2.3	2.0	2.6	2.4	1.6	1.2	1.4	1.3
AC-FT	517	147	310	127	285	948	503	297	200	494	410	181

CAL YR 1980 TOTAL 1684.99 MEAN 4.60 MAX 44 MIN .82 AC-FT 3340
WTR YR 1981 TOTAL 2228.70 MEAN 6.11 MAX 85 MIN 1.0 AC-FT 4420

SAMOA ISLANDS, ISLAND OF TUTUILA

16948000 AFUELO STREAM AT MATUU

LOCATION.--Lat 14°18'07" S., long 170°41'07" W., Hydrologic Unit 20100001, on left bank 0.2 mi (0.3 km) northwest of Matuu and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.25 mi^2 (0.65 km^2).

PERIOD OF RECORD.--March 1958 to current year. Prior to July 1960, published as Matuu Stream at Matuu.

REVISED RECORDS.--WSP 1937: Drainage area. WSP 2137: 1958-65.

GAGE.--Water-stage recorder. Altitude of gage is 80 ft (24.4 m), from topographic map.

REMARKS.--Records good. Small diversion above station for domestic use since September 1972. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--23 years, 1.49 ft^3/s (0.042 m^3/s), 1,080 acre-ft/yr (1.33 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 502 ft^3/s (14.2 m^3/s) Apr. 29, 1975, gage height, 4.59 ft (1.399 m), from rating curve extended above 26 ft^3/s (0.74 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.01 ft^3/s (<0.001 m^3/s) Sept. 16, 17, 20-26, 28, 29, 1975, Apr. 5-7, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 160 ft^3/s (4.53 m^3/s) and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 4	1530	213	6.03	3.23	0.985	Apr. 23	1730	266	7.53	3.52	1.073
Oct. 9	1430	*316	8.95	*3.78	1.152	July 26	0700	222	6.29	3.28	1.000
Dec. 9	0530	256	7.25	3.47	1.058	Aug. 18	0630	168	4.76	2.95	.899
Mar. 24	0500	191	5.41	3.10	.945						

Minimum discharge, 0.05 ft^3/s (0.001 m^3/s) July 13, 14, Sept. 28, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	.36	.18	.45	.28	.36	.78	.67	.30	.87	.33	.18
2	2.2	.33	.18	1.4	.15	26	2.3	2.0	.20	1.0	.28	.17
3	.91	.30	.90	1.2	1.8	2.8	1.4	.84	.18	.33	.18	.17
4	15	.25	2.6	.25	.42	.91	.63	.58	.18	.18	.12	.15
5	3.0	1.7	2.1	1.3	.33	.58	.49	1.9	.13	.12	.13	.15
6	1.1	.53	.58	.56	.30	10	.39	.98	.15	.11	.11	.12
7	.67	6.9	1.5	1.7	.33	4.8	.85	.49	.13	.09	.11	.95
8	.53	1.7	1.9	.42	2.1	3.3	2.2	.42	.13	.09	.12	.95
9	34	.78	20	.20	.78	1.3	6.9	.33	.12	.10	.11	1.4
10	3.1	1.1	1.1	.25	.30	.67	2.1	.79	.12	.09	.09	.63
11	1.3	.58	.49	.13	11	.45	.98	1.6	.12	.07	.09	5.5
12	.78	.42	.45	.34	2.1	.51	.67	.53	.23	.06	.09	3.3
13	.78	.36	.33	.11	.84	.42	.67	5.5	2.6	.06	.10	.98
14	.67	.31	.53	.08	5.9	.30	.45	3.0	2.3	.06	.11	1.3
15	1.2	.33	32	.07	1.5	.65	.78	1.6	5.1	.10	.18	.67
16	14	.36	2.6	.13	.72	4.8	10	3.2	1.1	.07	.09	.33
17	3.7	.28	1.0	.12	.63	10	1.9	1.3	.42	.09	.07	.25
18	1.8	.28	.63	.15	4.5	3.3	.72	1.1	.25	.08	20	.18
19	1.1	2.9	.49	.11	7.5	1.5	.67	.72	.47	.07	3.8	.31
20	.98	3.2	.33	.11	8.8	.72	1.2	5.4	.49	.15	9.4	.18
21	2.5	.98	.28	.18	2.5	1.5	1.5	1.7	.52	.81	16	.15
22	3.1	.63	.20	.17	1.1	1.8	17	.67	.36	18	3.0	.12
23	1.7	.45	.18	4.1	.72	1.7	26	.58	.18	3.9	1.1	.11
24	1.7	.42	.20	.72	.58	42	14	.67	.18	1.3	.98	.11
25	.98	.39	.15	.28	.45	13	2.3	.49	.13	1.5	.72	.12
26	1.5	.30	.17	.39	.36	2.2	1.9	.42	.11	30	2.1	.09
27	1.7	.22	.15	.20	.30	1.2	2.5	1.0	.12	5.4	.67	.08
28	.84	.17	.18	3.8	.28	1.4	2.1	.67	2.0	3.5	.45	.07
29	.53	.15	.18	5.7	---	4.7	1.7	.45	.98	1.1	.33	.07
30	.39	.15	.17	1.1	---	1.1	.91	.30	.33	.67	.25	.07
31	.36	---	.25	.45	---	.98	---	.28	---	.45	.20	---
TOTAL	110.02	26.83	72.00	26.17	56.57	144.95	105.99	40.18	19.63	70.42	61.31	18.86
MEAN	3.55	.89	2.32	.84	2.02	4.68	3.53	1.30	.65	2.27	1.98	.63
MAX	34	6.9	32	5.7	11	42	26	5.5	5.1	30	20	5.5
MIN	.36	.15	.15	.07	.15	.30	.39	.28	.11	.06	.07	.07
AC-FT	218	53	143	52	112	288	210	80	39	140	122	37

CAL YR 1980 TOTAL 665.68 MEAN 1.82 MAX 34 MIN .07 AC-FT 1320
WTR YR 1981 TOTAL 752.93 MEAN 2.06 MAX 42 MIN .06 AC-FT 1490

SAMOA ISLANDS, ISLAND OF TUTUILA

16963900 LEAFU STREAM NEAR AUASI

LOCATION.--Lat 14°16'27" S., long 170°34'26" W., Hydrologic Unit 20100001, on right bank 35 ft (11 m) upstream from upper village intake, 0.1 mi (0.2 km) north of Auasi, and 0.2 mi (0.3 km) upstream from mouth.

DRAINAGE AREA.--0.11 mi^2 (0.28 km^2).

PERIOD OF RECORD.--February 1972 to current year.

REVISED RECORDS.--WDR HI-75-1: 1972(P), 1973-74.

GAGE.--Water-stage recorder. Altitude of gage is 120 ft (37 m), from topographic map.

REMARKS.--Records good. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 0.37 ft^3/s (0.010 m^3/s), 268 acre-ft/yr (330,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 234 ft^3/s (6.63 m^3/s) Dec. 5, 1980, gage height, 4.43 ft (1.350 m), from recorded range in stage, from rating curve extended above 19 ft^3/s (0.54 m^3/s); minimum, 0.02 ft^3/s (0.001 m^3/s) Sept. 17-19, 26-30, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft^3/s (0.85 m^3/s) revised, and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 4	1530	65	1.84	2.81	0.856	Apr. 8	0500	56	1.59	2.68	0.817
Dec. 12	0130	45	1.27	2.51	.765	Apr. 23	1900	210	5.95	4.23	1.289
Dec. 15	0900	*234	6.63	*4.43	1.350	Apr 28	1030	46	1.30	2.53	.771
Feb. 19	1530	33	.93	2.30	.701	May 24	1500	50	1.42	2.60	.792
Mar. 2	1530	89	2.52	3.12	.951	May 27	0230	34	.96	2.33	.710
Mar. 24	1800	109	3.09	3.35	1.021	June 14	2300	63	1.78	2.79	.850
Apr. 5	0600	39	1.10	2.42	.738						

Minimum discharge, 0.08 ft^3/s (0.002 m^3/s) Sept. 22-24, 26-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	.21	.12	.19	.16	.70	.30	.41	.19	.37	.21	.14
2	2.0	.21	.12	.14	.12	8.8	.45	.34	.19	.27	.19	.14
3	1.3	.19	.21	1.5	.12	1.5	.24	.34	.19	.19	.19	.14
4	7.6	.16	.30	.34	.10	.58	.19	.30	.16	.16	.16	.12
5	4.5	.25	.27	.21	.10	.45	3.7	.27	.14	.14	.16	.10
6	.95	.21	.14	.16	.10	.41	1.5	.27	.14	.14	.16	.10
7	.51	.54	.19	.16	.10	.37	1.0	.52	.14	.12	.16	.16
8	.37	.34	.27	.14	.12	.34	3.2	.27	.14	.12	.16	.19
9	2.3	.21	1.3	.12	.12	.30	.31	.24	.14	.12	.14	.30
10	.95	.19	.34	.12	.14	.27	.58	.24	.14	.12	.14	.19
11	.45	.16	.21	.12	.88	.24	.30	.45	.12	.12	.14	.19
12	.37	.16	4.0	.12	.99	.24	.27	.24	.14	.12	.14	.14
13	.34	.14	1.4	.12	.45	.21	.24	.48	.32	.12	.16	.14
14	.30	.14	1.1	.12	1.2	.19	.24	.83	1.3	.12	.14	.12
15	.30	.14	9.8	.12	.88	.19	.21	.59	1.2	.14	.12	.12
16	1.8	.14	2.3	.14	.41	.21	.65	.49	.37	.14	.12	.12
17	1.3	.16	1.4	.34	.27	2.6	.49	.30	.24	.12	.14	.12
18	.65	.14	.60	.16	.98	.65	.30	.27	.21	.12	.21	.12
19	.41	.14	.30	.14	1.7	.37	.68	.21	.19	.10	.16	.16
20	.34	.14	.25	.14	3.9	.24	.45	.34	.16	.10	.12	.12
21	.85	.16	.21	.14	1.8	.51	.30	.24	.19	.41	.76	.10
22	.66	.14	.19	.12	1.2	.54	17	.21	.16	1.9	.37	.08
23	.45	.12	.19	.21	.95	.83	18	.19	.21	.65	.19	.08
24	1.0	.12	.19	.19	.82	14	3.4	1.1	.24	.27	.16	.08
25	.49	.10	.16	.16	.76	7.8	1.0	.41	.24	.41	.14	.12
26	.34	.12	.16	.19	.70	1.3	.76	.27	.24	.88	.27	.08
27	.30	.12	.14	.14	.70	.70	.54	1.0	.24	1.0	.21	.08
28	.27	.12	.14	.14	.65	1.4	1.7	.34	.27	.82	.19	.08
29	.24	.12	.14	.45	---	1.2	.70	.27	.26	.45	.16	.08
30	.24	.12	.14	.37	---	.59	.45	.24	.43	.27	.14	.08
31	.21	---	.19	.21	---	.45	---	.19	---	.20	.14	---
TOTAL	34.89	5.21	26.47	6.92	20.42	48.18	59.15	11.86	8.30	10.25	5.85	3.79
MEAN	1.13	.17	.85	.22	.73	1.55	1.97	.38	.28	.33	.19	.13
MAX	7.6	.54	9.8	1.5	3.9	14	18	1.1	1.3	1.9	.76	.30
MIN	.21	.10	.12	.12	.10	.19	.19	.19	.12	.10	.12	.08
AC-FT	69	10	53	14	41	96	117	24	16	20	12	7.5

CAL YR 1980 TOTAL 186.61 MEAN .51 MAX 9.8 MIN .07 AC-FT 370
WTR YR 1981 TOTAL 241.29 MEAN .66 MAX 18 MIN .08 AC-FT 479

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1981

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements: Date	Measurements: Discharge (ft³/s)
		Caroline Islands, Palau Islands				
16890620	Ngechutrong River, Babelthuap	Lat 07°36'11" N., long 134°34'50" E., at trail crossing, 300 ft (91 m) upstream from Diongradid River and 0.7 mi (1.1 km) southeast of Ngetbong village school (revised).	a0.25 (.65)	1974-81	10- 9-80	2.1
					11- 7-80	1.4
					1-15-81	4.3
					2- 5-81	2.3
					5-13-81	.32
					7- 8-81	2.3
					8-20-81	1.0
16890650	Ngerchetang (formerly Galkatan) River, Babelthuap	Lat 07°35'48" N., long 134°34'13" E., 0.7 mi (1.1 km) south of Ngetbong village school and 0.9 mi (1.4 km) upstream from Diongradid River (revised).	a1.51 (3.91)	1974-77, 1980-81	10-15-80	8.0
					11-18-80	6.2
					1- 3-81	4.8
					7- 8-81	14
16890700	Ngermeskang (formerly Almiokan) River, Babelthuap	Lat 07°31'16" N., long 134°33'16" E., 0.6 mi (0.9 km) upstream from unnamed left-bank tributary, 2.0 mi (3.3 km) east of Imeong village, and 5.8 mi (9.4 km) upstream from mouth (revised).	a7.14 (18.49)	1973-81	10-16-80	28
					11-17-80	25
					12-20-80	106
					2-18-81	68
					7-11-81	52
					8-28-81	44
16890800	Ngetpang (formerly Ngatpang) River, Babelthuap	Lat 07°27'45" N., long 134°31'38" E., 0.2 mi (0.3 km) upstream from unnamed right-bank tributary, 1.1 mi (1.8 km) east of forestry station, and 2.5 mi (4.1 km) upstream from mouth (revised).	a.34 (.88)	1973-81	10-10-80	1.6
					11-10-80	2.0
					2-26-81	1.4
					5- 7-81	.50
					7- 6-81	7.4
					9-10-81	1.0
16891200	Ngerimel (formerly Gihmel) River, Babelthuap	Lat 07°22'18" N., long 134°31'37" E., 400 ft (122 m) downstream from dam and 1.2 mi (1.9 km) northwest of airport terminal (revised).	.77 (1.99)	1968-78, 1981	7-12-81	5.2
16891430	North Fork Ngerdorch (formerly Ngardok) River, Babelthuap	Lat 07°27'51" N., long 134°35'12" E., 500 ft (152 m) upstream from right-bank tributary, 1.4 mi (2.3 km) upstream from confluence with South Fork Ngerdorch River, and 1.5 mi (2.4 km) west of Ngchesar village (revised).	a9.70 (25.12)	1975-81	10- 8-80	51
					11-13-80	33
					1-13-81	69
					2-10-81	67
					3-18-81	15
					5-22-81	25
					8-17-81	49
					9-16-81	38
16891440	North Fork Ngerdorch (formerly Ngardok) River tributary, Babelthuap	Lat 07°27'51" N., long 134°35'10" E., 50 ft (15 m) upstream from North Fork Ngerdorch River and 1.5 mi (2.4 km) west of Ngchesar village (revised).	a1.78 (4.61)	1975-81	10- 8-80	11
					11-13-80	6.7
					1-13-81	14
					2-10-81	11
					3-18-81	3.4
					5-22-81	4.7
					9-16-81	7.3

a Revised.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1981--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Palau Islands--Continued				
16891500	Lmetmellasch River (formerly Geligal Marsh outlet), Babelthuap	Lat 07°36'12" N., long 134°37'36" E., 0.5 mi (0.8 km) upstream from mouth and 1.1 mi (1.8 km) northwest of Ngkeklau community center (revised).	a0.32 (.83)	1971-75, 1977, 1980-81	10-14-80 11-21-80 6- 4-81 7- 9-81	1.0 .73 .42 2.4
16891750	Unnamed south coast stream, Ngerekebesang	Lat 07°20'42" N., long 134°26'54" E., at Echang village, 200 ft (61 m) upstream from mouth and 0.5 mi (0.8 km) southeast of Ngerekebesang village community center (revised).	a.02 (.05)	1970-78, 1981	7-12-81	.16
		Caroline Islands, Yap Islands				
16892000	Qatliw (formerly Atelu) Stream, Yap	Lat 09°32'58" N., long 138°06'41" E., 0.4 mi (0.6 km) northeast of Bael School and 0.5 mi (0.8 km) upstream from mouth (revised).	.31 (.80)	1981	7-21-81	1.2
16892500	Tamaney Stream, Yap	Lat 09°29'49" N., long 138°05'52" E., at abandoned German dam, 0.2 mi (0.3 km) upstream from mouth, and 1.1 mi (1.8 km) southwest of U.S. Weather Bureau station at airport (revised).	a.17 (.44)	1968-81	10-20-80 7-17-81	1.1 .46
16892600	Ripu Stream, Yap	Lat 09°30'10" N., long 138°06'24" E., 300 ft (91 m) upstream from mouth and 0.3 mi (0.5 km) southwest of Gitaem water treatment plant (revised).	.29 (.75)	1968-81	10-21-80 7-17-81	.62 .43
16892650	Dinaey (formerly Dinay) Stream, Yap	Lat 09°30'32" N., long 138°06'15" E., at upper Gitaem Reservoir, 0.4 mi (0.6 km) northwest of water-treatment plant (revised).	.04 (.10)	1980-81	10-21-80 4- 8-81 7-17-81	.19 No flow .06
16892680	Tholomar (formerly Thalomar) Stream above reservoir, Yap	Lat 09°30'37" N., long 138°06'18" E., about 500 ft (152 m) upstream from upper Gitaem Reservoir and 1.4 mi (2.3 km) southwest of Colonia (revised).	.10 (.26)	1965/, 1968-74≠, 1980-81	10-21-80 3-25-81 4- 8-81 7-23-81	.32 No flow No flow .07
16893180	Monguch Stream, Gagil-Tamil	Lat 09°31'59" N., long 138°09'57" E., 0.7 mi (1.1 km) northeast of Tamel Elementary School and 1.0 mi (1.6 km) south of Coast Guard LORAN station (revised).	.18 (.47)	1980-81	10-20-80 3-22-81 4- 7-81 4-27-81 5-14-81 7-22-81	2.0 .16 .08 .26 .12 1.6
16893190	Dorfay Stream, Gagil-Tamil	Lat 09°32'08" N., long 138°10'13" E., 0.2 mi (0.3 km) upstream from mouth and 0.9 mi (1.4 km) northeast of Tamilang Elementary School.	.20 (.52)	1981	7-22-81	.93
16893300	Gilaew (Formerly Bileiy) Spring, Gagil-Tamil	Lat 09°32'16" N., long 138°11'17" E., 200 ft (61 m) downstream from main spring, and 0.5 mi (0.8 km) southeast of Gagil Elementary School (revised).		1968-74≠, 1975-81	10-20-80 7-18-81	.21 .11
16893400	Eyeb Stream, Gagil-Tamil	Lat 09°33'11" N., long 138°09'14" E., 0.6 mi (1.0 km) southeast of Tagireeng Canal bridge, and 1.1 mi (1.8 km) northwest of U.S. Coast Guard LORAN station (revised).	.22 (.57)	1980-81	10-20-80 3-24-81 4- 7-81 4-27-81 5-14-81 7-18-81	4.6 .20 .19 .04 .07 2.2
16893500	Qamin (formerly Omin) Stream, Maap	Lat 09°35'57" N., long 138°10'15" E., 0.25 mi (0.40 km) southeast of Qamin and 0.8 mi (1.3 km) upstream from mouth (revised).	a.19 (1.49)	1980-81	10-20-80 3-24-81 4- 8-81 7-18-81	1.2 .03 No flow .28

/ At station 16892700, 800 ft (244 m) downstream.
≠ Operated as a continuous-record gaging station.
a Revised.

Discharge measurements made at low-flow partial-record stations during water year 1981--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Island of Ponape				
16897500	Kepin Awak River	Lat 06°57'37" N., long 158°15'35" E., at road crossing near mouth at Awak.	0.88 (2.28)	1981	4-10-81	12
16897550	Meitik River	Lat 06°56'12" N., long 158°13'26" E., at bridge near mouth (revised).	a5.04 (13.05)	1971, 1973, 1977, 1980-81	11-21-80	22
16897750	Kiepw River	Lat 06°54'58" N., long 158°12'47" E., 100 ft (30 m) upstream from confluence with Nanpil River.	5.71 (14.79)	1981	4- 9-81	53
16897800	Kiepw (formerly Tawenjokola) River, at mouth	Lat 06°56'36" N., long 158°13'14" E., at road crossing 0.1 mi (0.2 km) upstream from mouth (revised).	a11.2 (29.01)	1970-71, 1973-74, 1977, 1981	11-20-80	55
16898300	Dauen Neu (formerly Tawannu) River	Lat 06°56'47: N., long 158°11'55" E., 0.48 mi (0.78 km) southwest of Ponape Island Central School, and 1.7 mi (2.7 km) upstream from bridge at mouth (revised).	a.75 (1.94)	1970-75≠, 1975-76, 1981	4- 9-81	4.7
16898500	Nankewi (formerly Pilenkiel) River	Lat 06°56'03" N., long 158°10'46" E. revised, at highway bridge 350 ft (107 m) west of Sekere School.	a1.48 (3.83)	1971-73, 1975-77, 1981	11-20-80 3-30-81	7.5 8.7
16898550	Kiriedleng (formerly Kirictilang) River	Lat 06°55'17" N., long 158°09'48" E., at small right-bank tributary, 300 ft (91 m) downstream from road bridge, and 1.4 mi (2.2 km) northwest of Mount Temwetemwensekir (revised).	a.73 (1.89)	1972-73, 1975-77, 1981	11-20-80 3-30-81	2.8 3.6
16898650	Pehleng (formerly Palang) River	Lat 06°52'27" N., long 158°09'26" E., at road crossing near mouth, 0.25 mi (0.40 km) north of Doletikitik Hill.	2.01 (5.21)	1981	3-30-81	15
16898700	Lehn Mesi (formerly Lehnmasi) River at hanging bridge	Lat 06°49'24" N., long 158°10'11" E., revised, at foot bridge, 0.6 mi (1.0 km) upstream from mouth (revised).	a8.32 (21.55)	1971, 1973, 1976-77, 1981	3-28-81	75
16898900	Keprohi River	Lat 06°50'40" N., long 158°17'57" E., 150 ft (46 m) upstream from road bridge, and 0.46 mi (0.74 km) northeast of Ponape Agriculature Trade School.	2.05 (5.31)	1981	3-27-81	24
16899000	Senipehn (formerly Senpen) River	Lat 06°52'28" N., long 158°16'17" E., 0.1 mi (0.2 km) downstream from confluence of two branches 0.5 mi (0.8 km) southeast of Merewi Hill, and 1.5 mi (2.4 km) upstream from mouth (revised).	a6.04 (15.64)	1971, 1973, 1976-77, 1980-81	3-27-81	71
16899100	Lehdau (formerly Lataw) River	Lat 06°52'59" N., long 158°16'15" E., 0.1 mi (0.2 km) upstream from left-bank tributary, 0.4 mi (0.6 km) northeast of Merewi Hill, and 1.4 mi (2.3 km) upstream from mouth (revised).	a2.44 (6.32)	1971, 1973, 1976-77, 1980-81	3-27-81	32
		Caroline Islands, Island of Kosrae				
16899670	Mwot River	Lat 05°18'26" N., long 162°55'25" E., 300 ft (91 m) upstream from dam, 0.55 mi (0.88 km) upstream from mouth, and 1.3 mi (2.1 km) northwest of Mount Wakapp (revised).	a.79 (2.0)	1980-81	10-30-80 12-20-80 1-21-81 4- 2-81	26 2.4 2.1 .67

≠ Operated as a continuous-record gaging station.
a Revised.

Discharge measurements made at low-flow partial-record stations during water year 1981--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Island of Kosrae--Continued				
16899680	Walung River	Lat 05°18'25" N., long 162°55'01" E., above diversion dam, 0.2 mi (0.3 km) upstream from mouth, and 1.7 mi (2.7 km) west of Mount Wakapp. Altitude, 65 ft (20 m) from topographic map.	0.03 (.08)	1981	4- 2-81	0.02
16899690	Finkol River	Lat 05°17'10" N., long 162°59'04" E., 0.2 mi (0.3 km) upstream from Menka River, and 1.7 mi (2.7 km) south of Mount Finkol. Altitude, 25 ft (7.6 m) from topographic map.	1.70 (4.40)	1981	4- 4-81	31
16899700	Palusrik River	Lat 05°16'32" N., long 162°59'13" E., 0.4 mi (0.6 km) upstream from Finkol River, 0.9 mi (1.4 km) northeast of Utwe Village, and 2.4 mi (3.9 km) south of Mount Finkol (revised).	a.45 (1.17)	1971-72≠, 1980-81	4- 4-81	4.2
16899780	Tafuyat (formerly Tafeyat) River	Lat 05°18'38" N., long 163°00'47" E., at old Japanese dam, 0.75 mi (1.2 km) upstream from mouth, and 1.5 mi (2.4 km) east of Mount Finkol (revised).	a.27 (.70)	1974-75, 1977-81	10- 2-80 10-27-80 1- 2-81 4- 4-81	.76 1.6 1.1 1.4
16899830	Innem River	Lat 05°19'49" N., long 163°00'27" E., at concrete road bridge, 0.5 mi (0.8 km) upstream from mouth, and 1.4 mi (2.3 km) southeast of Mount Mutunte (revised)	a1.82 (4.71)	1971-74, 1978-81	10- 2-80 10-27-80 1- 2-81 3-31-81	3.2 9.4 7.2 3.9
16899850	Pukusruk (formerly Pakusrik) River	Lat 05°21'01" N., long 163°00'37" E., 20 ft (6.1 m) upstream from diversion dam, 0.7 mi (1.1 km) upstream from mouth, and 1.2 mi (1.9 km) east of Mount Mutunte (revised).	a.27 (.70)	1974-75 1980-81	4- 1-81	.40
		Samoa Islands, Island of Tutuila				
16917500	Leele Stream at mouth at Fagasa	Lat 14°17'28" S., long 170°43'09" W., on left bank at Fagasa and 200 ft (61 m) upstream from mouth.	.23 (.60)	1966-76≠, 1977, 1981	8- 6-81 9-29-81	.41 .29
16919000	Leaveave Stream near Aasu	Lat 14°18'28" S., long 170°45'06" W., 0.6 mi (1.0 km) upstream from mouth and 0.9 mi (1.4 km) southeast of Aasu.	.60 (1.55)	1959-60, 1962-63, 1968, 1974-77, 1979, 1981	7-17-81 9- 3-81	1.7 3.7
16920000	Aasu Stream near Aasu	Lat 24°18'16" S., long 170°45'29" W., 300 ft (91 m) downstream from 100 ft (30 m) waterfall, 0.5 mi (0.8 km) south of Aasu, and 0.5 mi (0.8 km) upstream from mouth.	.82 (2.12)	1959-63, 1968, 1974-76, 1978-79, 1981	7-17-81 9- 3-81	1.9 4.6
16932000	Asili Stream near Asili	Lat 14°19'46" S., long 170°47'42" W., 0.4 mi (0.6 km) north of Asili and 0.5 mi (0.8 km) upstream from mouth.	.55 (1.42)	1959-61, 1963-65, 1968, 1970, 1974-77, 1981	8- 5-81 9-30-81	1.8 1.0
16932500	Asili Stream at Asili	Lat 14°20'04" S., long 170°47'40" W., 100 ft (30 m) upstream from highway bridge at Asili and 0.1 mi (0.2 km) upstream from mouth.	.66 (1.71)	1958-59≠, 1960-61, 1963-65, 1967-69, 1974-77, 1981	8- 5-81 9-30-81	2.2 1.0

≠ Operated as a continuous-record gaging station.
a Revised.

Discharge measurements made at low-flow partial-record stations during water year 1981--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Samoa Islands, Island of Tutuila--Continued				
16934000	Leafu Stream near Leone	Lat 14°19'47" S., long 170°46'55" W., 30 ft (9 m) upstream from reservoir, 0.9 mi (1.4 km) upstream from mouth, and 1.0 mi (1.6 km) north of Leone.	0.69 (1.79)	1959-64, 1968-69 1971-74, 1976-77, 1981	8- 3-81 10- 1-81	4.0 1.6
16944000	Papa Stream near Nuuuli	Lat 14°18'31" S., long 170°42'29" W., 0.3 mi (0.5 km) upstream from Tauese Stream and 0.9 mi (1.4 km) northwest of Nuuuli .	.57 (1.48)	1959-61, 1963-64, 1967-68, 1974-78, 1981	8- 7-81 9-24-81	1.5 .89
16960000	Alega Stream at Alega	Lat 14°16'58" S., long 170°38'19" W., on left bank 300 ft (91 m) upstream from left-bank tributary, 0.2 mi (0.3 km) northwest of Alega, and 0.3 mi (0.5 km) upstream from mouth.	.19 (.49)	1958-76≠, 1977-78, 1981	8- 7-81 9-24-81	.88 .84
16964000	Leafu Stream at Auasi	Lat 14°16'28" S., long 170°34'26" W., 0.1 mi (0.2 km) north of Auasi and 0.2 mi (0.3 km) upstream from mouth.	.12 (.31)	1959-61, 1963-65, 1968-71, 1976, 1981	9-29-81	.05

≠ Operated as a continuous-record gaging station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1981

Stream	Tributary to	Location	Drainage area mi² (km²)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Island of Kosrae				
Mutunte River above diversion	Pacific Ocean	Lat 05°21'31" N., long 162°59'27" E., 0.3 mi (0.5 km) upstream from gaging station at old dam and 0.9 mi (1.4 km) north of Mount Mutunte.			4- 1-81	1.7
Tofol River	Pacific Ocean	Lat 05°19'04" N., long 163°00'18" E., 100 ft (30 m) above diversion dam and 1,000 ft (305 m) upstream from gaging station.			4- 6-81	6.1
Tofol River	Pacific Ocean	Lat 05°19'05" N., long 163°00'19" E., 60 ft (18 m) below diversion dam, 840 ft (256 m) upstream from gaging station.			4- 6-81	5.1
		Samoa Islands, Island of Tutuila				
Leafu Stream No. 3	Pacific Ocean	Lat 14°19'34" S., long 170°46'54" W., 1,100 ft (335 m) above village catchment and 1.3 mi (2.1 km) northeast of Leone.		1977, 1981	8 -3-81 10- 1-81	4.2 1.6

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS

16890600 DIONGRADID RIVER, BABELTHUAP
(Formerly published as Adeiddo River, Babelthuap)

LOCATION (REVISED).--Lat 07°36'04" N., long 134°35'02" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) upstream from left-bank tributary, 0.9 mi (1.5 km) southeast of Ngetbong village school, and 2.4 mi (3.8 km) upstream from confluence with Ngerchetang.

DRAINAGE AREA.--4.45 mi² (11.53 km²), revised.

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
JUL 08...	1026	45	7.6	25.5	8.0	16	1.0	3.2	2.0	3.5	31	.4

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUL 08...	.3	15	<1.0	4.6	.0	15	39	.05	.06	140	5

< Actual value is known to be less than the value shown.

16890620 NGECHUTRONG RIVER, BABELTHUAP

LOCATION (REVISED).--Lat 07°36'11" N., long 134°34'50" E., Hydrologic Unit 20100006, 300 ft (91 m) upstream from Diongradid River and 0.9 mi (1.4 km) northwest of Mount Megilon.

DRAINAGE AREA.--0.25 mi² (0.65 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 08...	1241	30	6.9	27.0	8.0	8	1.0	1.8	.9	2.9	43

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUL 08...	.4	.2	7.0	<1.0	4.6	.0	10	.07	60	6

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16890650 NGERCHETANG RIVER, BABELTHUAP
(Formerly published as Galkatan River, Babelthuap)

LOCATION (REVISED).--Lat 07°35'48" N., long 134°34'13" E., Hydrologic Unit 20100006, 0.9 mi (1.4 km) upstream from Diongradid River and 1.5 mi (2.4 km) west of Mount Megilon.

DRAINAGE AREA.--1.51 mi² (3.91 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 08...	1436	14	42	7.0	27.0	7.1	14	1.0	2.6	1.7	3.4	35

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 08...	.4	.2	13	<1.0	4.2	.0	14	.00	90	8

< Actual value is known to be less than the value shown.

16890700 NGERMESKANG RIVER, BABELTHUAP
(Formerly published as Almiokan River, Babelthuap)

LOCATION (REVISED).--Lat 07°31'16" N., long 134°33'16" E., Hydrologic Unit 20100006, 0.5 mi (0.8 km) upstream from unnamed tributary and 4.6 mi (7.4 km) northeast of Ngatpang village.

DRAINAGE AREA.--7.14 mi² (18.49 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 11...	1155	52	7.4	25.5	7.6	20	5.0	3.6	2.6	3.3	26

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 11...	.3	.3	15	<1.0	3.7	.0	18	.06	130	6

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16890800 NGETPANG RIVER, BABELTHUAP
(Formerly published as Ngatpang River, Babelthuap)

LOCATION (REVISED).--Lat 07°27'45" N., long 134°31"38" E., Hydrologic Unit 20100006, 0.2 mi (0.3 km) upstream from unnamed tributary and 0.4 mi (0.6 km) southeast of Ngatpang village.

DRAINAGE AREA.--0.34 mi² (0.88 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
06...	1400	7.3	39	6.8	26.0	8.1	12	.00

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
06...	2.1	1.6	3.1	35	.4	.4	12	1.0	3.2

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
06...	.0	17	37	.05	.08	70	6

16890900 TABECHEDING RIVER, BABELTHUAP
(Formerly published as Tabagaten River, Babelthuap)

LOCATION (REVISED).--Lat 07°27'03" N., long 134°31'29" E., Hydrologic Unit 20100006, on left bank 0.2 mi (0.3 km) downstream from waterfall, 1.5 mi (2.4 km) upstream from boat landing, and 1.6 mi (2.6 km) east of forestry station.

DRAINAGE AREA.--6.07 mi² (15.72 km²), revised.

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL												
06...	1100	121	42	7.6	24.5	7.6	13	.00	2.1	2.0	3.2	34

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL										
06...	.4	.2	13	<1.0	3.1	.0	14	.07	60	5

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891300 EDENG RIVER, BABELTHUAP
(Formerly published as Gaden River, Babelthuap)

LOCATION (REVISED).--Lat 07°23'00" N., long 134°33'07" E., Hydrologic Unit 20100006, on left bank 1,000 ft (305 m) upstream from confluence with Kmekumel River, 0.7 mi (1.1 km) north of Palau Mission Academy, and 1.5 mi (2.4 km) northeast of airport terminal.

DRAINAGE AREA.--4.26 mi² (11.03 km²), revised.

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 04...	1415	90	47	7.0	26.0	7.4	16	.00	3.2	2.0	3.5	31

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 04...	.4	.3	16	<1.0	3.5	.0	15	.06	100	5

< Actual value is known to be less than the value shown.

16891310 KMEKUMEL RIVER, BABELTHUAP
(Formerly published as Kumekumeyel River, Babelthuap)

LOCATION (REVISED).--Lat 07°23'14" N., long 134°32'42" E., Hydrologic Unit 20100006, 0.5 mi (0.8 km) upstream from confluence with Edeng River and 1.1 mi (1.8 km) north of Palau Mission Academy.

DRAINAGE AREA.--1.44 mi² (3.73 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 04...	1046	22	60	7.2	25.0	8.1	24	2.0	5.7	2.4	3.7	25

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 04...	.3	.3	22	<1.0	3.8	.0	17	.06	90	10

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891400 SOUTH FORK NGERDORCH RIVER, BABELTHUAP
(Formerly published as South Fork Ngardok River, Babelthuap)

LOCATION (REVISED).--Lat 07°26'19" N., long 134°34'28" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) from left-bank tributary, 1.3 mi (2.1 km) west of Rrai village, and 1.5 mi (2.4 km) upstream from confluence with North Fork Ngerdorch River.

DRAINAGE AREA.--2.44 mi² (6.32 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
05...	1145	210	38	7.3	25.0	8.6	10	.00

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
05...	1.8	1.4	2.9	37	.4	.3	11	1.0	2.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
05...	.0	11	28	.04	.11	80	5

16891430 NORTH FORK NGERDORCH RIVER, BABELTHUAP
(Formerly published as North Fork Ngardok River, Babelthuap)

LOCATION (REVISED).--Lat 07°27'51" N., long 134°35'12" E., Hydrologic Unit 20100006, 500 ft (152 m) upstream from right-bank tributary, 1.4 mi (2.3 km) upstream from confluence with South Fork Ngerdorch River, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--9.70 mi² (25.12 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
JUL												
05...	1500	32	6.5	24.5	7.8	9	.00	1.6	1.3	2.9	39	.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL											
05...	.3	9.0	2.0	3.0	.0	10	27	.04	.11	130	10

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS

16892000 QATLIW STREAM, YAP
(Formerly published as Atelu Stream, Yap)

LOCATION (REVISED).--Lat 09°32'58" N., long 138°06'41" E., Hydrologic Unit 20100006, 2.6 mi (4.2 km) northwest of Colonia and 1.2 mi (1.9 km) northwest of Mount Matade.

DRAINAGE AREA.--0.31 mi² (0.80 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL 21...	1200	1.1	83	7.9	26.0	7.8	35	11

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL 21...	5.1	5.5	6.2	28	.5	.1	24	3.9	12

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 21...	.0	20	67	.09	.05	270	9

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892400 QARINGEEL STREAM, YAP
(Formerly published as Aringel Stream, Yap)

LOCATION (REVISED).--Lat 09°31'03" N., long 138°05'31" E., Hydrologic Unit 20100006, on right bank at Qaringeel and 0.3 mi (0.5 km) southwest of Dalipeebinaew School.

DRAINAGE AREA.--0.24 mi² (0.62 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
16...	0920	.17	68	7.7	24.5	7.9	28	7.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
16...	3.8	4.5	4.3	25	.4	.1	21	2.2	6.2

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
16...	.0	18	52	.07	.03	190	5

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892500 TAMANEY STREAM, YAP

LOCATION (REVISED).--Lat 09°29'49" N., long 138°05'53" E., Hydrologic Unit 20100006, at abandoned German dam, 0.5 mi (0.8 km) northwest of Inuf, and 2.3 mi (3.7 km) southwest of Colonia.

DRAINAGE AREA.--0.17 mi² (0.44 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
17...	0945	.47	143	7.9	26.5	7.4	72	4.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
17...	15	8.3	5.3	14	.3	.1	68	1.3	5.5

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
17...	.0	16	93	.13	.03	160	40

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892600 RIPU STREAM, YAP

LOCATION (REVISED).--Lat 09°30'10" N., long 138°06'25" E., Hydrologic Unit 20100006, 1,000 ft (305 m) upstream from mouth and 1.6 mi (2.6 km) southwest of Colonia.

DRAINAGE AREA.--0.29 mi^2 (0.75 km^2), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
17...	1045	.43	152	8.1	26.5	7.2	67	14

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL.									
17...	11	9.6	7.7	20	.4	.1	53	1.9	20

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
17...	.0	22	104	.14	.03	150	20

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892650 DINABY STREAM, YAP
(Formerly published as Dinay Stream, Yap)

LOCATION (REVISED).--Lat 09°30'33" N., long 138°06'14" E., Hydrologic Unit 20100006, 0.5 mi (0.8 km) northwest of the water treatment plant and 1.5 mi (2.4 km) southwest of Colonia.

DRAINAGE AREA.--0.04 mi² (0.10 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL 17...	1135	.06	81	7.3	26.5	6.5	31	3.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL 17...	3.2	5.5	5.7	29	.4	.3	28	2.0	7.6

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 17...	.0	20	61	.08	.02	100	9

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892680 THOLOMAR STREAM ABOVE RESERVOIR, YAP
(Formerly published as Thalomar Stream above Reservoir, Yap)

LOCATION (REVISED).--Lat 09°30'37" N., long 138°06'18" E., Hydrologic Unit 20100006, 0.5 mi (0.8 km) northwest of the water treatment plant and 1.4 mi (2.3 km) southwest of Colonia.

DRAINAGE AREA.--0.10 mi² (0.26 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
23...	0920	.08	116	7.3	26.5	6.5	47	3.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
23...	6.5	7.5	6.9	24	.4	.2	44	2.0	10

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
23...	.0	22	82	.11	.04	140	10

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892800 DALOELAEB STREAM, YAP
(Formerly published as Dalolab Stream, Yap)

LOCATION (REVISED).--Lat 09°31'05" N., long 138°06'22" E., Hydrologic Unit 20100006, on left bank 0.17 mi (0.27 km) north of Daloelaeb Hill water tank and 1.3 mi (2.1 km) northwest of Protestant Mission Church in Colonia.

DRAINAGE AREA.--0.07 mi² (0.18 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
16...	1035	.03	99	7.2	25.5	3.8	38	9.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
16...	4.5	6.6	7.0	28	.5	.1	29	2.6	20

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
16...	.0	19	78	.11	.04	170	7

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892900 PEEMGOY STREAM, YAP
(Formerly published as Pemgoy Stream, Yap)

LOCATION (REVISED).--Lat 09°31'08" N., long 138°06'36" E., Hydrologic Unit 20100006, on right bank at Taalgum, 100 ft (30 m) upstream from Taalgum Stream, and 0.3 mi (0.5 km) southeast of Mount Peemgoy, and 1.0 mi (1.6 km) northwest of Protestant Mission Church in Colonia.

DRAINAGE AREA.--0.14 mi² (0.36 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
16...	1235	.08	100	7.6	25.5	6.0	38	9.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
16...	4.3	6.5	6.8	28	.5	.1	29	2.0	17

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
16...	.0	22	77	.10	.08	130	4

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16893100 BURONG STREAM, YAP

LOCATION (REVISED).--Lat 09°32'05" N., long 138°07'19" E., Hydrologic Unit 20100006, on left bank at Dugor, 0.25 mi (0.40 km) upstream from mouth, and 0.5 mi (0.8 km) northeast of Mount Gamuw.

DRAINAGE AREA.--0.23 mi² (0.60 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL 17...	1520	1.3	92	7.3	26.0	6.5	37	7.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL 17...	5.1	6.0	6.3	27	.4	.1	30	3.1	9.0

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 17...	.0	21	69	.09	.03	260	6

092910138045070 AIRPORT SWAMP, YAP

LOCATION.--Lat 09°29'10" N., long 138°04'50" E., Hydrologic Unit 20100006, at Yap Airport, 0.5 mi (0.8 km) northwest of Lueis, and 0.5 mi (0.8 km) northeast of Lamer.

PERIOD OF RECORD.--Water year 1980.

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 20...	1615	88	8.5	32.0	5.7	36	8.0	12	1.4	3.2	16

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 20...	.2	.8	28	<5.0	4.7	.0	2.3	.02	60	40

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16893180 MONGUCH STREAM, GAGIL-TAMIL
(Formerly published as Monguch Stream, Gagil-Tomil)

LOCATION (REVISED).--Lat 09°31'59" N., long 138°09'57" E., Hydrologic Unit 20100006, 1.0 mi (1.6 km) southwest of the Coast Guard LORAN Station, 0.62 mi (1.0 km) northwest of Ma village.

DRAINAGE AREA.--0.18 mi² (0.47 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL 22...	1045	1.6	34	6.4	27.5	6.6	6	.00

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL 22...	.8	.9	4.3	61	.8	.2	8.0	1.0	5.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 22...	.0	10	28	.04	.02	120	20

16893200 MUKONG STREAM, GAGIL-TAMIL
(Formerly published as Mukong Stream, Gagil-Tomil)

LOCATION (REVISED).--Lat 09°32'05" N., long 138°10'18" E., Hydrologic Unit 20100006, on right bank 0.2 mi (0.3 km) upstream from mouth and 0.9 mi (1.4 km) south of U.S. Coast Guard LORAN station.

DRAINAGE AREA.--0.50 mi² (1.29 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
JUL 19...	1000	1.7	26.0	15	1.0	2.2	2.4	4.0	36	.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 19...	.1	14	1.2	5.6	.0	8.6	33	.04	.02	100	90

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16893300 GILAEW SPRING, GAGIL-TAMIL
(Formerly published as Bileiy Spring, Gagil-Tomil)

LOCATION (REVISED).--Lat 09°32'16" N., long 138°11'17" E., Hydrologic Unit 20100006, on right bank at Binau, 200 ft (61 m) downstream from main spring, and 0.6 mi (1.0 km) upstream from mouth.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL												
18...	1540	.25	111	7.0	27.5	5.4	40	8.0	2.3	8.3	9.0	33

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL											
18...	.6	.2	32	.5	20	.0	18	78	.07	80	7

16893400 EYEB STREAM, GAGIL-TAMIL
(Formerly published as Byeb Stream, Gagil-Tomil)

LOCATION (REVISED).--Lat 09°33'11" N., long 138°09'14" E., Hydrologic Unit 20100006, 1.2 mi (1.9 km) northwest of the Coast Guard LORAN Station and 0.6 mi (0.97 km) southeast of the Tageren Canal.

DRAINAGE AREA.--0.22 mi² (0.57 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
18...	1010	2.2	36	6.8	26.0	7.2	10	.00

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
18...	2.1	1.2	4.0	46	.5	.1	12	.6	5.2

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
18...	.0	7.6	28	.04	.02	160	20

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16893500 QAMIN STREAM, MAAP
(Formerly published as Omin Stream, Yap)

LOCATION (REVISED).--Lat 09°35'57" N., long 138°10'15" E., Hydrologic Unit 20100006, 0.8 mi (1.3 km) northwest of Chol and 0.7 mi (1.1 km) southeast of Qamin.

DRAINAGE AREA.--0.19 mi² (0.49 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL 18...	1250	.29	120	7.4	27.5	7.2	40	8.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL 18...	6.1	6.1	10	35	.7	.2	32	2.0	18

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 18...	.0	20	82	.11	.04	420	50

CAROLINE ISLANDS, TRUK ISLANDS

16893700 WICHEN RIVER AT ALTITUDE 55 M, MOEN

LOCATION (REVISED).--Lat 07°26'37" N., long 151°51'39" E., Hydrologic Unit 20100006, on left bank at Peniesence, 0.9 mi (1.4 km) upstream from mouth, and 1.6 mi (2.6 km) west of Saint Xaviers Academy.

DRAINAGE AREA.--0.21 mi² (0.54 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 18...	1630	.30	27.0	7.4	11	1	2.2	1.4	6.0	53

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 18...	.8	.2	10	1.1	5.8	.1	16	39	.05	.06	130	10

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, TRUK ISLANDS--Continued

16893800 WICHEN RIVER AT ALTITUDE 18 M, MOEN

LOCATION (REVISED).--Lat 07°27'01" N., long 151°51'56" E., Hydrologic Unit 20100006, on left bank at Peniesence and 0.3 mi (0.5 km) upstream from mouth and 1.4 mi (2.3 km) west of Saint Xaviers Academy.

DRAINAGE AREA.--0.57 mi² (1.48 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV									
18...	1500	.50	--	--	27.0	--	7.3	12	1
APR									
16...	1230	10	63	6.9	25.0	14	8.0	11	--

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV									
18...	--	2.3	1.4	5.9	52	.8	.3	11	.8
APR									
16...	4.0	2.3	1.3	6.3	53	.8	.8	7.0	2.8

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV								
18...	6.0	.1	15	39	.05	.14	180	10
APR								
16...	11	.1	10	39	.05	.02	160	6

CAROLINE ISLANDS, ISLAND OF PONAPE

16897550 MEITIK RIVER

LOCATION (REVISED).--Lat 06°56'12" N., long 158°13'26" E., Hydrologic Unit 20100006, at bridge near mouth.

DRAINAGE AREA.--5.04 mi² (13.05 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV										
21...	1340	22	27.5	7.5	29	8	5.4	3.8	3.3	19

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV												
21...	.3	.6	21	2.2	3.1	.1	14	45	.06	.00	230	7

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16897600 NANPIL RIVER
(Formerly published as Nanepil River)

LOCATION (REVISED).--Lat 06°55'09" N., long 158°11'59" E., Hydrologic Unit 20100006, on left bank 0.1 mi (0.2 km) upstream from diversion dam and 1.3 mi (2.1 km) upstream from Kiepw River.

DRAINAGE AREA.--3.00 mi² (7.77 km²), revised.

PERIOD OF RECORD.--Water years 1978 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 21...	1240	13	26.5	9	2.3	.9	1.9	30

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 21...	.3	.2	2.0	3.1	.1	5.9	.04	100	2

16897900 LEWI RIVER
(Formerly published as Lui River)

LOCATION (REVISED).--Lat 06°55'32" N., long 158°12'18" E., Hydrologic Unit 20100006, on right bank at road and pipeline crossing, 300 ft (91 m) upstream from right-bank tributary and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--0.46 mi² (1.19 km²), revised.

PERIOD OF RECORD.--Water years 1978 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 21...	1110	3.6	26.0	7.2	14	0	2.6	1.9	2.2	25

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 21...	.3	.2	16	.4	3.3	.1	9.7	30	.04	.00	130	3

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16898200 LEWI RIVER AT MOUTH
(Formerly published as Lui River at mouth)

LOCATION (REVISED).--Lat 06°57'04" N., long 158°12'39" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) upstream from bridge at mouth and 0.4 mi (0.6 km) west southwest of Ponape State Hospital.

DRAINAGE AREA.--2.08 mi² (5.39 km²), revised.

PERIOD OF RECORD.--Water years 1978 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 20...	1640	9.4	27.5	8.0	20	5	3.1	3.0	2.7	22

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 20...	.3	.2	15	.6	3.2	.2	13	35	.05	.00	120	2

16898300 DAUEN NEU RIVER
(Formerly published as Tawannu River)

LOCATION.--Lat 06°56'47" N., long 158°11'55" E., Hydrologic Unit 20100006, 0.4 mi (0.6 km) southwest of Ponape Island Central School and 1.7 mi (2.7 km) upstream from bridge at mouth.

DRAINAGE AREA.--0.75 mi² (1.21 km²).

PERIOD OF RECORD.--Water year 1981.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR 09...	1200	4.7	90	7.5	26.0	5.4	7.2	38	6

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
APR 09...	15	10	3.2	3.4	16	.2	.2	32	1.7

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 09...	4.8	.1	8.2	51	.07	170	6

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16898600 LUHPWOR RIVER
(Formerly published as Lupwor River)

LOCATION (REVISED).--Lat 06°54'09" N., long 158°09'07" E., Hydrologic Unit 20100006, on left bank about 300 ft (91 m) upstream from 50-ft (15-m) waterfall, 0.2 mi (0.3 km) downstream from highway bridge, and 0.2 mi (0.3 km) west of Pwakorokot Hill.

DRAINAGE AREA.--0.72 mi² (1.86 km²), revised.

PERIOD OF RECORD.--Water years 1978 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 20...	1315	2.6	27.0	7.5	17	1	3.5	2.0	2.5	24

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 20...	.3	.2	16	1.0	2.9	.0	13	35	.05	.00	190	4

16898650 PEHLENG RIVER
(Formerly published as Palang River)

LOCATION.--Lat 06°52'27" N., long 158°09'26" E., Hydrologic Unit 20100006, at road crossing near mouth.

DRAINAGE AREA.--2.01 mi² (5.21 km²).

PERIOD OF RECORD.--Water year 1981.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
MAR 30...	1430	15	37	7.6	26.0	2.1	8.2	11	4.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAR 30...	2.1	1.4	2.9	36	.4	.2	7.0	.6	3.5

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 30...	.1	9.5	24	.03	.04	80	3

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16899000 SENIPEHN RIVER
(Formerly published as Senpen River)

LOCATION (REVISED).--Lat 06°52'28" N., long 158°16'17" E., Hydrologic Unit 20100006, 0.1 mi (0.2 km) downstream from confluence of two branches, 0.5 mi (0.8 km) southeast of Merewi Peak, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--6.04 mi^2 (15.64 km^2), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
MAR									
27...	1500	71	33	7.3	26.0	.90	8.1	9	1.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAR									
27...	1.5	1.2	2.6	39	.4	.2	8.0	.2	3.4

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR							
27...	.1	8.1	22	.03	.06	60	2

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16899100 LEHDAU RIVER
(Formerly published as Lataw River)

LOCATION (REVISED).--Lat 06°52'59" N., long 158°16'15" E., Hydrologic Unit 20100006, 0.1 mi (0.2 km) upstream from right-bank tributary, 0.4 mi (0.6 km) northeast of Meriwi Peak, and 1.4 mi (2.2 km) upstream from mouth.

DRAINAGE AREA.--2.44 mi² (6.32 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
MAR 27...	1230	32	30	7.6	26.0	1.6	7.8	7	.00

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAR 27...	1.4	.9	2.6	43	.4	.2	7.0	.2	3.5

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 27...	.0	7.6	21	.03	.06	100	3

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899700 PALUSRIK RIVER

LOCATION (REVISED).--Lat 05°16'32" N., long 162°59'13" E., Hydrologic Unit 20100006, on right bank 0.4 mi (0.6 km) upstream from Finkol River, 0.7 mi (1.1 km) northeast of Utive village, and 2.0 mi (0.3 km) south of Mount Crozer.

DRAINAGE AREA.--0.45 mi² (1.17 mi²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR 04...	1630	4.2	68	7.4	25.0	5.4	7.1	25	.4

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
APR 04...	.00	4.2	3.5	3.1	21	.3	.4	21	.5

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 04...	4.6	.1	17	46	.06	.02	170	1

16899840 SIBA RAIN CATCHMENT AT LELE

LOCATION.--Lat 05°19'54" N., long 163°01'23" E., Hydrologic Unit 20100006, 0.2 mi (0.3 km) southeast of Yenei and 0.4 mi (0.6 km) northwest of Mount Fenkofuru.

PERIOD OF RECORD.--Water year 1981.

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
APR 06...	1000	58	9.2	26.0	0	2	4

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 06...	2	70	4	10	.0	0	220

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF KOSRAE--Continued

16899850 PUKUSRUK RIVER
(Formerly published as Pakusrik River)

LOCATION (REVISED).--Lat 05°21'01" N., long 163°00'37" E., Hydrologic Unit 20100006, 80 ft (24 m) downstream from new diversion dam, 0.5 mi (0.8 km) upstream from mouth, 0.9 mi (1.4 km) east of Mount Buache.

DRAINAGE AREA.--0.27 mi² (0.70 km²), revised.

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
APR									
01...	1600	.40	148	7.6	25.5	.80	7.8	59	4.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR									
01...	9.8	8.3	5.7	17	.3	.5	55	.7	5.8

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR							
01...	.1	26	90	.12	.02	80	<1

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS

16891200 NGERIMEL (FORMERLY GIHMEL) RIVER, BABELTHUAP (LAT 07°22'18" N., LONG 134°31'37" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 12...	1350	5.1	55	7.8	30.0	7.2	21	.00	4.8	2.2	4.0	29

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 12...	.4	.4	21	<1.0	4.3	.0	17	.07	120	30

< Actual value is known to be less than the value shown.

16891480 NGKEKLAU (FORMERLY KEKLAU) VILLAGE RESERVOIR, BABELTHUAP (LAT 07°35'31" N., LONG 134°38'08" E.)

DATE	TIME	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUL 09...	1020	44	.00	10	4.7	7.0	25	.5	.3

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL 09...	44	1.0	6.6	.0	38	95	.13	.21	90	4

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891500 LMETMELLASCH RIVER (FORMERLY GELIGAL MARSH OUTLET), BABELTHUAP (LAT 07°36'12" N., LONG 134°37'36" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
JUL								
09...	1310	2.4	70	8.2	26.5	7.8	25	2.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
JUL									
09...	5.0	3.1	5.3	31	.5	.3	23	1.0	5.5

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL							
09...	.0	22	57	.08	.08	150	6

16891750 UNNAMED SOUTH COAST STREAM, NGEREKEBESANG (LAT 07°20'42" N., LONG 134°26'54" E.)

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
JUL												
12...	1110	40	7.4	26.5	7.4	10	.00	2.3	1.1	4.3	47	.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUL											
12...	.2	13	2.0	5.2	.0	17	41	.06	.15	100	9

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891800 BLODESACHEL (FORMERLY ALMIGU) SPRING, KOROR (LAT 07°20'47" N., LONG 134°29'57" E.)

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
JUL 12...	1455	104	8.1	26.5	6.4	49	7.0	15	2.8	4.3	16	.3

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUL 12...	.2	42	2.0	4.7	.0	18	73	.20	310	10

CAROLINE ISLANDS, YAP ISLANDS

16893190 DORFAY STREAM, GAGIL-TAMIL (LAT 09°32'08" N., LONG 138°10'13" E.)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)
JUL 22...	1500	.91	29	6.0	27.5	6.8	4	.00

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUL 22...	.5	.6	4.1	70	.9	.1	6.0	1.0	5.8

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUL 22...	.0	6.7	23	.03	.01	200	30

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, TRUK ISLANDS

16893870 POU RESERVOIR INTAKE (6-IN PIPE), MOEN (LAT 07°26'34" N., LONG 151°50'56" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR 14...	1000	.00	75	29.0	12	7.6	20	.00	4.3

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
APR 14...	2.2	6.9	43	.7	.2	25	1.4	5.6	.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 14...	19	55	.07	.47	.07	130	3

CAROLINE ISLANDS, ISLAND OF PONAPE

16897470 PAHNTAKAI (FORMERLY PILENPANTAKI) RIVER (LAT 06°56'22" N., LONG 158°16'20" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
APR 10...	1430	5.0	75	7.9	26.0	5.1	8.3	28	.00

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR 10...	6.0	3.2	4.5	25	.4	.4	30	.9	6.1

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 10...	.1	15	55	.07	.04	150	10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16897480 UNNAMED RIVER NEAR CAPE UH (FORMERLY U) (LAT 06°56'40" N. LONG 158°16'18" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
NOV 21...	1715	E1.5	27.0	46	5	8.5	6.1	4.7	18	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 21...	.7	41	.8	4.7	.2	29	82	E.11	.56	150	3

E Estimated.

16897500 KEPIN AWAK (FORMERLY UNNAMED) RIVER (LAT 06°57'37" N., LONG 158°15'35" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV 21...	1630	E10	--	--	26.5	--	--	15	8
APR 10...	1200	12	59	7.7	26.0	1.3	7.1	20	--

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV 21...	--	3.2	1.6	2.8	29	.3	.4	7.0	1.6
APR 10...	.00	4.4	2.2	4.9	34	.5	.3	23	.9

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 21...	4.1	.1	8.4	27	E.04	.32	150	4
APR 10...	5.9	.1	10	43	.06	.11	180	4

E Estimated.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16897750 RIGHT BRANCH KIEPW (FORMERLY TAWENJOKOLA) RIVER (LAT 06°54'48" N., LONG 158°12'47" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
APR 09...	1530	53	35	7.7	25.0	2.6	8.5	15	1.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR 09...	3.6	1.4	6.5	48	.7	.4	14	.4	4.1

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 09...	.1	8.7	34	.05	.03	100	4

16897800 KIEPW (FORMERLY TAWENJOKOLA RIVER) AT MOUTH (LAT 06°56'37" N., LONG 158°13'14" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 21...	1440	55	28.0	7.8	13	0	2.7	1.5	2.5	29

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 21...	.3	.3	15	.1	3.2	.0	9.7	29	.04	.00	160	10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16898500 NANKEWI (FORMERLY PILENKIEL) RIVER (LAT 06°56'03" N., LONG 158°10'46" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV									
20...	1520	7.5	--	--	28.5	--	7.6	19	3
MAR									
30...	1700	8.7	53	7.3	26.0	2.2	7.7	17	--

DATE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV									
20...	--	4.7	1.8	2.8	24	.3	.2	16	1.1
MAR									
30...	3.0	4.1	1.7	3.2	28	.3	.2	14	.6

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV								
20...	3.3	.1	14	38	.05	.00	80	4
MAR								
30...	4.0	.1	13	36	.05	.18	130	6

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16898550 KIRIEDLENG (FORMERLY KIRICTILANG) RIVER (LAT 06°55'17" N., LONG 158°09'48" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)
NOV								
20...	1330	2.8	--	--	--	--	7.8	16
MAR								
30...	1600	3.6	47	6.5	25.0	1.6	7.6	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV									
20...	0	3.4	1.7	2.6	26	.3	.4	18	.3
MAR									
30...	--	--	--	--	--	--	--	10	1.7

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV								
20...	3.0	.1	16	38	.05	.00	40	1
MAR								
30...	4.0	.1	--	--	--	.12	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16898700 LEHN MESI (FORMERLY LEHNMASI) RIVER AT HANGING BRIDGE (LAT 06°49'24" N., LONG 158°10'11" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
MAR 28...	1230	75	36	7.5	25.0	1.3	8.7	11	4.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAR 28...	1.8	1.6	2.5	32	.3	.2	7.0	.5	3.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 28...	.1	7.6	22	.03	.09	70	3

16898800 KAPINPIL SPRING NEAR NANIOR ISLAND (LAT 06°48'42" N., LONG 158°18'39" E.)

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
APR 11...	0900	17000	7.3	27.0	6.4	1900	1800	140	370	3100	77	31

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 11...	100	67	690	5400	.3	23	9860	.11	50	10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16898900 KEPROHI (FORMERLY KAPIROI) RIVER (LAT 06°51'00" N., LONG 158°17'39" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
MAR 27...	1700	24	39	7.5	27.0	1.9	8.0	14	4.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAR 27...	2.5	1.8	2.8	30	.3	.2	10	.2	3.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 27...	.1	3.8	22	.03	.08	80	3

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899670 MWOT RIVER (LAT 05°18'26" N., LONG 162°55'25")

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
APR 02...	1300	.67	71	7.4	26.0	1.4	7.0	27	3.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR 02...	3.8	4.2	2.8	18	.2	.2	24	.6	3.3

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 02...	.1	13	43	.06	.01	330	8

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF KOSRAE--Continued

16899680 WALUNG RIVER (LAT 05°18'25" N., LONG 162°55'01" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
APR 02...	1230	.02	75	7.9	26.0	2.4	7.8	26	1.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR 02...	3.6	4.1	3.1	21	.3	.1	25	.1	3.7

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 02...	.1	11	41	.06	.01	20	<1

< Actual value is known to be less than the value shown.

16899690 FINKOL RIVER (LAT 05°17'10" N., LONG 162°59'04" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
APR 04...	1400	31	68	7.7	25.0	3.5	7.9	26	2.0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR 04...	4.3	3.6	2.9	19	.3	.5	24	1.5	5.6

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 04...	.1	13	46	.06	.04	150	4

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MARIANA ISLANDS, ISLANO OF SAIPAN									
16801000 - SF TALOFOFO STREAM SAIPAN (LAT 15 13 00 LONG 145 46 25)									
NOV , 1980					AUG , 1981				
17...	1540	.69	--	26.0	27...	1600	6.4	29.0	26.5
FEB , 1981									
19...	1450	.23	28.0	26.5					
16801500 - MF TALOFOFO STREAM SAIPAN (LAT 15 13 09 LONG 145 46 30)									
FEB , 1981					AUG , 1981				
19...	1140	.31	27.0	26.5	27...	1410	1.9	29.0	26.5
MAR									
20...	1005	.25	27.5	25.5					
16805200 - LAKE SUSUPE SAIPAN (LAT 15 09 15 LONG 145 42 42)									
AUG , 1981									
28...	0930	--	--	28.0					
MARIANA ISLANDS, ISLAND OF GUAM									
16808300 - FINILE CREEK AT AGAT GUAM (LAT 13 22 39 LONG 144 39 26)									
OCT , 1980									
02...	1100	6.0	28.0	27.0					
16840000 - TINAGA RIVER NR INARAJAN GUAM (LAT 13 17 10 LONG 144 45 04)									
JUN , 1981									
12...	1200	.97	28.0	26.5					
16847000 - IMONG RIVER NR AGAT GUAM (LAT 13 20 17 LONG 144 41 55)									
SEP , 1981									
01...	1510	8.3	30.0	29.0					
16848100 - ALMAGOSA RIVER NEAR AGAT GUAM (LAT 13 20 43 LONG 144 41 36)									
JUN , 1981					SEP , 1981				
09...	1455	.48	29.0	26.0	01...	1305	6.2	30.0	27.0
JUL									
28...	1320	2.3	28.5	26.5					
16848500 - MAULAP RIVER NEAR AGAT GUAM (LAT 13 21 14 LONG 144 41 44)									
JUN , 1981					SEP , 1981				
09...	1120	1.1	28.5	26.5	01...	1040	5.5	28.5	27.0
16854500 - UGUM RIVER AB TALOFOFO FALLS, NR TALOFOFO, GUAM (LAT 13 19 16 LONG 144 44 01)									
AUG , 1981									
17...	1345	89	26.0	25.0					
16865000 - PAGO RIVER NR ORDOT GUAM (LAT 13 26 08 LONG 144 45 14)									
NOV , 1980					JUL , 1981				
25...	1000	14	--	26.0	22...	1000	15	--	27.0
JAN , 1981					SEP				
19...	1030	4.6	27.5	25.5	03...	0845	12	--	27.0
MAY									
06...	1000	.44	--	26.0					

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS

16890600 - DIONGRADID RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 36 04 LONG 134 35 02)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
09...	1235	27	28.0	25.0
NOV				
07...	1245	23	27.5	25.5
DEC				
16...	1320	34	28.0	25.5
JAN , 1981				
15...	1250	61	27.5	25.5
FEB				
05...	1230	36	27.5	25.5
MAR , 1981				
16...	1510	12	28.0	25.0
MAY				
13...	1255	8.2	28.0	26.0
JUN				
18...	1245	68	27.0	26.0
JUL				
08...	1025	40	27.5	25.5
AUG				
20...	1250	24	30.0	26.0

16890620 - NGECHUTRONG RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 36 11 LONG 134 34 50)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
08...	1240	2.3	--	27.0

16890650 - NGERCHETANG RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 35 48 LONG 134 34 13)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
08...	1435	14	--	27.0

16890700 - NGERMESKANG RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 31 16 LONG 134 33 16)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
11...	1155	52	--	25.5

16890800 - NGETPANG RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 27 45 LONG 134 31 38)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
06...	1400	7.3	--	26.0

16890900 - TABECHEDING RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 27 03 LONG 134 31 29)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
10...	1255	29	29.0	25.0
NOV				
10...	1105	25	27.5	25.5
DEC				
13...	1120	48	26.5	25.0
JAN , 1981				
28...	1225	32	26.5	25.5
FEB				
26...	1120	23	27.0	25.0
MAY , 1981				
07...	1045	13	28.0	25.5
JUN				
11...	1100	101	27.5	25.5
JUL				
06...	1100	121	--	24.5
SEP				
10...	1420	24	27.5	26.0

16891300 - EDENG RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 23 00 LONG 134 33 07)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
07...	1110	22	28.0	25.0
NOV				
03...	1140	30	28.5	25.5
DEC				
06...	1110	36	29.0	25.0
JAN , 1981				
08...	1220	37	27.0	25.0
27...	1405	19	28.0	23.5
FEB				
09...	1345	26	28.0	26.0
MAR				
13...	1235	23	28.0	25.0
APR				
14...	1150	5.1	29.0	26.0
MAY				
11...	1230	4.1	30.0	25.5
JUN				
10...	1125	38	28.5	25.5
JUL				
04...	1415	90	--	26.0
SEP				
14...	1100	7.7	27.5	25.5

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891310 - KMEKUMEL RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 23 14 LONG 134 32 42)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
07...	1330	6.2	28.0	26.0
NOV				
03...	1350	7.0	--	26.0
DEC				
06...	1350	9.4	27.5	26.0
JAN , 1981				
08...	1440	12	26.0	25.0
FEB				
09...	1400	6.9	28.0	26.0
MAR				
13...	1510	4.0	28.0	25.0
APR , 1981				
14...	1415	1.1	28.5	26.0
MAY				
11...	1450	.92	30.0	26.0
JUN				
10...	1415	8.3	28.5	26.0
JUL				
04...	1045	22	26.0	25.0
SEP				
14...	1335	2.0	27.5	26.0

16891400 - SOUTH FORK NGERDORCH RIVER, BABELTHUAP, PALAU IS (LAT 07 26 19 LONG 134 34 28)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
08...	1115	12	29.0	25.0
NOV				
13...	1140	7.8	28.0	26.0
DEC				
15...	1210	27	29.5	25.5
JAN , 1981				
13...	1205	15	30.0	25.0
FEB				
10...	1210	13	28.0	26.0
MAR				
18...	1155	4.5	29.0	25.0
MAY , 1981				
22...	1200	9.2	29.0	26.5
JUL				
05...	1145	210	--	25.0
05...	1320	18	--	24.5
AUG				
17...	1140	12	28.5	26.0
SEP				
16...	1325	12	25.5	25.0

16891430 - NORTH FORK NGERDORCH RIVER, BABELTHUAP, PALAU IS (LAT 07 27 51 LONG 134 35 12)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
05...	1500	41	--	24.5

CAROLINE ISLANDS, YAP ISLANDS

16892000 - QATLIW STREAM YAP, YAP ISLANDS (LAT 09 32 58 LONG 138 06 41)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
21...	1200	1.1	--	26.0

16892400 - QARINGBEL STREAM, YAP, YAP ISLANDS (LAT 09 31 02 LONG 138 05 31)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JAN , 1981				
20...	0940	.73	28.0	26.0
FEB				
19...	1110	.04	27.0	25.0
MAY				
28...	0955	.05	27.0	26.0
JUN				
16...	1215	.34	28.5	27.5
JUN , 1981				
30...	1100	.59	26.5	25.5
JUL				
16...	0920	.17	--	24.5
SEP				
23...	1440	2.3	28.5	27.0

16892500 - TAMANEY STREAM, YAP, YAP ISLANDS (LAT 09 29 49 LONG 138 05 52)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
17...	0945	.47	--	26.5

16892600 - RIPU STREAM, YAP, YAP ISLANDS (LAT 09 30 10 LONG 138 06 24)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
17...	1045	.43	--	26.5

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16892650 - DINAEY STREAM, YAP, YAP ISLANDS (LAT 09 30 32 LONG 138 06 15)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
17...	1135	.06	--	26.5

16892680 - THOLOMAR STREAM ABOVE RESERVOIR YAP, YAP IS (LAT 09 30 37 LONG 138 06 18)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
23...	0920	.08	--	26.5

16892800 - DALOELAEB STREAM, YAP, YAP ISLANDS (LAT 09 31 05 LONG 138 06 21)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
08...	1155	.13	27.0	25.0
JAN , 1981				
19...	1040	.06	28.0	25.5
JUN				
16...	1305	.02	28.5	27.0
JUL , 1981				
01...	0955	.06	28.0	25.0
16...	1035	.03	--	25.5

16892900 - PEEMGOY STREAM, YAP, YAP ISLANDS (LAT 09 31 07 LONG 138 06 36)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
10...	0925	.06	26.5	25.0
DEC				
10...	1055	.03	26.5	25.5
JAN , 1981				
19...	1450	.11	28.5	26.0
FEB				
19...	0945	.03	28.0	25.0
JUN , 1981				
16...	1345	.06	28.5	26.5
JUL				
01...	1135	.13	26.5	25.5
16...	1235	.08	--	25.5
SEP				
24...	1240	.22	28.5	26.0

16893100 - BURONG STREAM, YAP, YAP ISLANDS (LAT 09 32 05 LONG 138 07 19)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JAN , 1981				
20...	1110	1.2	28.0	26.0
FEB				
19...	1535	.05	28.0	26.0
JUN				
16...	1050	.05	28.5	27.5
30...	1300	.59	29.5	26.5
JUL , 1981				
17...	1520	1.3	--	26.0
SEP				
25...	1200	.19	29.0	27.0

16893180 - MONGUCH STREAM, GAGIL-TAMIL, YAP ISLANDS (LAT 09 31 59 LONG 138 09 57)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
22...	1045	1.6	--	27.5

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS--Continued

16893200 - MUKONG STREAM, GAGIL TAMIL, YAP ISLANDS (LAT 09 32 05 LONG 138 10 18)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
04...	1140	.50	29.0	27.5
JAN , 1981				
16...	1025	1.4	28.0	26.0
FEB				
17...	1130	1.2	28.0	26.5
MAR				
09...	1100	.63	28.0	26.5
24...	1125	.24	29.0	27.0
APR				
07...	1030	.20	29.0	27.5
27...	1200	.10	28.0	27.5
MAY , 1981				
27...	1100	.13	28.5	27.0
JUN				
15...	1205	2.4	28.5	27.0
30...	1130	3.0	28.0	25.5
JUL				
19...	1000	1.7	--	26.0
SEP				
10...	1050	.80	29.0	27.5
25...	1025	1.9	29.0	27.5

16893300 - GILAEW SPRING, GAGIL-TAMIL, YAP ISLANDS (LAT 09 32 16 LONG 138 11 17)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
18...	1540	.25	--	27.5

16893400 - EYEB STREAM, GAGIL-TAMIL, YAP ISLANDS (LAT 09 33 11 LONG 138 09 14)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
18...	1010	2.2	--	26.0

16893500 - QAMIN STREAM, MAAP, YAP ISLANDS (LAT 09 35 57 LONG 138 10 15)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUL , 1981				
18...	1250	.29	--	27.5

CAROLINE ISLANDS, TRUK ISLANDS

16893700 - WICHEN R AT ALTITUDE 55M, MOEN, TRUK ISLANDS (LAT 07 26 37 LONG 151 51 39)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
02...	1000	.37	29.0	24.0
NOV , 1980				
18...	1630	.30	--	27.0

16893800 - WICHEN RIVER AT ALT 18M, MOEN, TRUK ISLANDS (LAT 07 27 01 LONG 151 51 56)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
11...	1205	2.2	29.5	27.5
18...	1500	.50	--	27.0
APR , 1981				
16...	1230	10	--	25.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE

16897550 - MEITIK RIVER, PONAPE (LAT 06 56 12 LONG 158 13 26)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
21...	1340	22	--	27.5

16897600 - NANPIL RIVER, PONAPE (LAT 06 55 09 LONG 158 11 59)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
05...	1240	7.2	29.0	24.0
21...	1240	13	--	26.5
DEC				
02...	1255	13	29.0	24.5
17...	1005	44	26.0	23.5
JAN , 1981				
13...	1320	21	29.0	24.0
28...	1300	59	29.0	24.0
FEB , 1981				
10...	1225	29	29.0	24.0
MAR				
05...	1430	6.0	30.0	26.0
26...	1430	59	29.0	24.0
MAY				
06...	1150	27	29.0	25.0
JUN				
03...	1105	13	29.0	25.0
17...	1315	32	28.0	24.0

16897900 - LEWI RIVER, PONAPE (LAT 06 55 32 LONG 158 12 18)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
05...	1050	1.1	29.0	24.0
21...	1110	3.6	--	26.0
DEC				
02...	1100	1.0	29.5	24.0
JAN , 1981				
13...	1015	1.8	30.0	24.0
28...	1145	6.3	29.0	24.0
FEB				
10...	1045	3.7	28.0	24.0
MAR , 1981				
26...	1705	8.7	28.0	24.0
JUN				
03...	1300	1.1	28.0	25.0
17...	1030	4.1	28.0	24.0
JUL				
09...	1040	6.9	28.0	25.0

16898200 - LEWI RIVER AT MOUTH, PONAPE (LAT 06 57 04 LONG 158 12 39)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
06...	0830	9.3	27.0	24.0
20...	1640	9.4	--	27.5
DEC				
04...	1010	4.8	29.0	25.5
JAN , 1981				
14...	1120	7.8	29.5	25.0
30...	1205	14	30.0	25.0
MAR , 1981				
03...	1420	5.4	30.0	26.0
MAY				
05...	1150	28	29.0	25.0
18...	1225	15	29.0	25.0

16898300 - DAUEN NEU RIVER, PONAPE (LAT 06 56 47 LONG 158 11 55)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
09...	1200	4.7	--	26.0

16898600 - LUHPWOR RIVER, PONAPE (LAT 06 54 09 LONG 158 09 07)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1980				
04...	1230	3.5	29.0	24.0
20...	1315	2.6	--	27.0
DEC				
03...	1255	1.7	30.0	25.0
16...	1245	2.0	32.0	26.0
JAN , 1981				
14...	1415	2.9	29.0	25.0
29...	1305	8.1	29.0	26.0
MAR , 1981				
04...	1345	2.0	30.0	27.0
30...	1310	3.2	29.0	25.5
MAY				
04...	1330	10	28.0	24.0
26...	1105	3.8	28.0	24.0
JUL				
08...	1515	4.5	28.0	24.0

16898650 - PEHLENG RIVER, PONAPE (LAT 06 52 27 LONG 158 09 26)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAR , 1981				
30...	1430	15	--	26.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16899000 - SENIPEHN RIVER, PONAPE (LAT 06 52 28 LONG 158 16 17)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAR , 1981				
27...	1500	71	--	26.0

16899100 - LEHDAU RIVER, PONAPE (LAT 06 52 59 LONG 158 16 15)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAR , 1981				
27...	1230	32	--	26.0

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899500 - MUTUNTE RIVER KOSRAE (LAT 05 21 45 LONG 162 59 20)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
01...	1130	.62	27.5	25.5
APR , 1981				
13...	1340	3.2	31.0	26.0

16899600 - OKAT RIVER KOSRAE (LAT 05 19 11 LONG 162 58 19)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
03...	1230	19	27.0	26.0

16899620 - MELO RIVER KOSRAE (LAT 05 20 30 LONG 162 58 33)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
03...	1410	18	27.5	25.0

16899700 - PALUSRIK RIVER, KOSRAE (LAT 05 16 32 LONG 162 59 13)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
04...	1630	4.2	--	25.0

16899750 - MALEM RIVER KOSRAE (LAT 05 17 35 LONG 163 00 54)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAR , 1981				
31...	1545	1.5	28.5	27.0

16899800 - TOFOL RIVER KOSRAE (LAT 05 19 09 LONG 163 00 22)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAR , 1981				
31...	1335	1.5	28.0	26.0

16899840 - SIBA RAIN CATCHMENT AT LELE, KOSRAE (LAT 05 19 54 LONG 163 01 23)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
06...	1800	--	--	26.0

16899850 - PUKUSRUK RIVER, KOSRAE (LAT 05 21 01 LONG 163 00 37)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
APR , 1981				
01...	1600	.40	--	25.5

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SAMOA ISLANDS, ISLAND OF TUTUILA

16912000 - PAGO STREAM AT AFONO, TUTUILA (LAT 14 16 03 LONG 170 39 02)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
15...	0830	4.9	26.0	24.0
NOV				
04...	1055	1.5	28.0	26.0
DEC				
03...	0855	2.5	25.0	24.0
JAN , 1981				
05...	0850	2.8	25.5	24.0
29...	0830	6.4	24.5	24.0
FEB				
20...	0935	14	26.0	25.0
MAR				
25...	0730	45	24.0	24.0
APR				
21...	0830	2.3	24.0	23.0
29...	0905	3.3	24.5	23.0
JUN				
02...	1100	1.6	25.5	23.0
JUN , 1981				
11...	1010	1.1	24.0	24.0
JUL				
04...	1310	1.7	31.0	26.0
29...	1240	9.5	24.0	24.0
AUG				
13...	1055	.95	27.0	25.0
14...	0945	.94	26.0	24.5
20...	0715	2.3	24.5	24.0
26...	1130	16	25.0	23.5
SEP				
01...	1150	1.7	25.0	24.0
09...	1225	4.5	26.0	24.5
15...	1005	2.1	25.0	24.0
16...	1330	1.5	27.0	25.5
23...	0845	1.4	26.0	24.0
29...	1055	1.0	27.0	25.0

16920500 - AASU STREAM AT AASU, TUTUILA (LAT 14 17 51 LONG 170 45 30)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
17...	0905	23	25.0	24.0
NOV				
13...	1000	3.5	30.0	26.0
JAN , 1981				
09...	0920	3.4	27.0	25.0
MAR				
11...	0930	1.5	27.0	25.0
MAY , 1981				
08...	1005	3.9	24.0	23.0
JUL				
17...	0835	1.8	25.5	24.0
AUG				
10...	0955	3.5	24.0	23.0
SEP				
03...	1105	5.2	24.0	23.0

16931000 - ATAULOMA STREAM AT AFAO, TUTUILA (LAT 14 20 10 LONG 170 48 02)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
16...	1030	.65	26.0	25.0
30...	1015	.65	27.0	26.0
NOV				
28...	0920	.23	27.0	26.0
DEC				
12...	1015	.40	27.0	25.0
JAN , 1981				
08...	1405	.30	28.0	26.0
FEB				
13...	0800	1.2	26.5	25.0
MAR				
26...	1300	2.4	27.0	26.0
APR , 1981				
28...	0920	1.5	25.0	24.0
MAY				
28...	0915	.53	24.0	23.0
JUL				
08...	0915	.37	26.0	25.0
AUG				
06...	1000	.53	24.0	22.0
24...	0905	1.5	25.0	23.5
SEP				
30...	1310	.22	27.0	25.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

SAMOA ISLANDS, ISLAND OF TUTUILA--Continued

16931500 - ASILI STREAM AT ALT 330 FT (100M) NR ASILI TU (LAT 14 19 34 LONG 170 47 38)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
14...	0900	4.2	25.0	24.0
NOV				
18...	1205	1.3	30.0	27.0
DEC				
18...	0930	4.0	25.0	24.0
JAN , 1981				
21...	0835	1.2	26.0	24.5
FEB				
24...	1020	2.5	25.0	24.0
MAR				
30...	1150	2.4	26.0	25.0
MAY , 1981				
05...	1110	1.6	25.0	23.0
JUN				
10...	1015	.76	23.5	22.5
AUG				
05...	1145	1.5	24.0	23.0
27...	1135	4.9	25.0	24.0
SEP				
30...	0930	.85	25.0	24.0

16933500 - LEAFU STREAM AT ALT 370FT (113M) NR LEONE TU (LAT 14 19 31 LONG 170 46 50)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
08...	0930	5.8	25.0	23.0
28...	1015	2.7	25.0	23.5
NOV				
26...	0920	1.4	24.5	24.0
DEC				
30...	0940	1.3	26.0	24.0
FEB , 1981				
04...	0900	2.8	24.5	24.0
MAR				
05...	0940	6.9	26.0	25.0
APR				
14...	1345	2.8	24.5	24.0
APR , 1981				
15...	1040	2.9	25.0	24.0
MAY				
20...	0940	5.5	24.0	23.0
JUN				
25...	0945	2.2	24.0	22.5
AUG				
03...	1150	3.2	23.0	22.0
19...	1005	2.7	24.5	23.0
31...	0905	3.8	23.0	23.0
SEP				
10...	0905	1.7	24.0	24.0

16948000 - AFUELO STREAM AT MATUU, TUTUILA (LAT 14 18 07 LONG 170 41 07)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
10...	0910	3.1	25.0	24.0
NOV				
14...	0830	.30	28.0	26.0
DEC				
17...	0930	1.1	25.0	24.0
JAN , 1981				
14...	1020	.09	28.0	26.0
FEB				
25...	0925	.50	25.5	25.0
MAR				
06...	0915	4.2	25.5	25.0
APR , 1981				
21...	1020	1.4	24.0	23.0
MAY				
27...	0840	1.3	24.5	23.0
JUL				
02...	1100	.96	25.0	24.0
AUG				
12...	0850	.11	25.0	24.5
SEP				
16...	0910	.29	24.0	24.0

16963900 - LEAFU STREAM NEAR AUASI, TUTUILA (LAT 14 16 27 LONG 170 34 26)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1980				
07...	1005	.48	27.0	26.0
NOV				
12...	0935	.15	28.0	25.0
25...	0955	.11	29.0	26.0
DEC				
29...	1125	.12	27.0	25.0
FEB , 1981				
02...	1045	.11	26.0	25.0
MAR				
04...	1015	.62	25.0	25.0
APR				
09...	1055	.29	25.0	25.0
MAY , 1981				
12...	0900	.22	25.0	24.0
JUN				
16...	0935	.37	24.0	23.0
JUL				
21...	0835	.09	24.5	24.0
AUG				
25...	0920	.16	24.5	23.0
SEP				
29...	0830	.07	25.5	24.0

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

132624144452771. Local number, 2645220 Ordot well A-20.
LOCATION.--Lat 13°26'24" N., long 144°45'27" E., Hydrologic Unit 20100003, at Ordot School, 1.4 mi (2.3 km) west of junction of Routes 4 and 10, Ordot, Guam. Owner: Government of Guam.
AQUIFER.--Mariana Limestone and Alutom formation.
WELL CHARACTERISTICS.--Drilled parabasal water-table well, diameter 6 in (0.2 m), depth reported 120 ft (36.6 m).
DATUM.--Altitude of land-surface datum is 137 ft (41.8 m). Measuring point: Top of casing, 141.74 ft (43.202 m) above mean sea level.
REMARKS.--Recording gage installed January 1974.
PERIOD OF RECORD.--January 1974 to September 1976 records available in files of district office; October 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.03 ft (16.468 m), revised, above mean sea level, Oct. 21, 1980; lowest, 33.03 ft (10.068 m) above mean sea level, June 15-16, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49.89	53.48	50.74	47.78	45.25	42.49	39.32	37.28	36.04	34.88	36.75	47.75
2	50.23	53.42	50.63	47.80	45.19	42.37	39.23	37.24	35.99	34.90	36.99	47.76
3	50.64	53.37	50.55	47.81	45.13	42.28	39.14	37.19	35.93	34.93	37.33	47.76
4	51.02	53.31	50.44	47.81	45.03	42.17	39.07	37.13	35.88	34.97	37.64	47.74
5	51.34	53.25	50.33	47.80	44.93	42.06	38.99	37.11	35.85	35.00	37.85	47.69
6	51.65	53.19	50.21	47.78	44.86	41.93	38.91	37.08	35.80	35.01	38.14	47.60
7	51.91	53.12	50.11	47.75	44.77	41.83	38.82	37.03	35.75	35.01	38.36	47.54
8	52.19	53.03	49.99	47.71	44.70	41.73	38.74	36.97	35.70	35.00	38.61	47.47
9	52.55	52.97	49.85	47.67	44.60	41.63	38.66	36.92	35.64	34.98	38.83	47.36
10	52.88	52.87	49.71	47.62	44.52	41.53	38.60	36.86	35.60	34.98	39.05	47.30
11	53.12	52.78	49.58	47.56	44.43	41.41	38.52	36.81	35.55	34.98	39.35	47.24
12	53.31	52.72	49.45	47.49	44.34	41.29	38.44	36.76	35.49	34.99	39.75	47.14
13	53.49	52.63	49.32	47.42	44.23	41.19	38.38	36.74	35.43	35.03	40.15	47.06
14	53.62	52.52	49.18	47.33	44.13	41.07	38.34	36.73	35.38	35.13	40.70	46.96
15	53.72	52.39	49.05	47.23	44.03	40.96	38.26	36.72	35.33	35.27	41.30	46.86
16	53.80	52.26	48.91	47.14	43.90	40.87	38.20	36.70	35.29	35.43	41.93	46.76
17	53.88	52.16	48.79	47.05	43.80	40.75	38.14	36.67	35.24	35.58	42.67	46.67
18	53.95	52.07	48.65	46.94	43.68	40.65	38.09	36.64	35.22	35.74	43.35	46.61
19	53.98	51.94	48.53	46.83	43.57	40.56	37.93	36.62	35.20	35.87	43.85	46.56
20	54.00	51.80	48.40	46.73	43.46	40.44	37.85	36.59	35.19	36.04	44.30	46.53
21	54.02	51.68	48.29	46.62	43.34	40.35	37.81	36.54	35.17	36.17	44.77	46.47
22	54.02	51.59	48.20	46.51	43.23	40.26	37.69	36.48	35.14	36.31	45.23	46.43
23	54.00	51.49	48.12	46.38	43.14	40.17	37.64	36.44	35.12	36.43	45.70	46.37
24	53.95	51.36	48.03	46.25	43.05	40.07	37.62	36.40	35.08	36.54	46.11	46.30
25	53.93	51.28	47.91	46.13	42.94	39.99	37.59	36.36	35.05	36.61	46.50	46.20
26	53.87	51.20	47.83	46.01	42.84	39.87	37.56	36.32	35.01	36.66	46.81	46.11
27	53.81	51.14	47.75	45.89	42.71	39.77	37.51	36.27	34.97	36.67	47.09	46.05
28	53.76	51.05	47.68	45.77	42.60	39.67	37.44	36.23	34.94	36.67	47.31	46.05
29	53.71	50.95	47.67	45.64	---	39.59	37.37	36.17	34.90	36.67	47.50	46.09
30	53.67	50.85	47.70	45.51	---	39.51	37.33	36.14	34.88	36.67	47.62	46.17
31	53.65	---	47.75	45.37	---	39.41	---	36.10	---	36.68	47.71	---
MEAN	53.02	52.26	49.01	46.95	44.01	40.90	38.24	36.69	35.39	35.67	42.23	46.89
MAX	54.02	53.48	50.74	47.81	45.25	42.49	39.32	37.28	36.04	36.68	47.71	47.76
MIN	49.89	50.85	47.67	45.37	42.60	39.41	37.33	36.10	34.88	34.88	36.75	46.05

WTR YR 1981 MEAN 43.44 MAX 54.02 MIN 34.88

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

132644144480871. Local number, 2648400 BPM Well 1.
LOCATION.--Lat 13°26'44" N., long 144°48'08" E., Hydrologic Unit 20100003, on lot number 2287, 0.2 mi (0.3 km) southeast of junction of Routes 15 and 10, Mangilao, Guam. Owner: Ana P. Diaz.
AQUIFER.--Coralline Limestone, probably Miocene age.
WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 12 in (0.30 m), depth reported 235 ft (71.6 m).
DATUM.--Altitude of land-surface datum is 210 ft (64.0 m). Measuring point: Top edge of casing, 209.90 ft (63.978 m) above mean sea level.
REMARKS.--Recording gage installed January 1974.
PERIOD OF RECORD.--February 1972 to September 1977 records available in files of district office; October 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.45 ft (1.356 m) above mean sea level, May 22, 1976; lowest recorded, 2.20 ft (0.671 m) above mean sea level, Jan. 12, 1980.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.29	3.35	2.80	2.91	2.79	2.84	2.74	2.70	2.87	2.92	3.34	3.40
2	3.35	3.22	2.76	2.91	2.76	2.83	2.74	2.72	2.89	2.93	3.39	3.38
3	3.40	3.13	2.73	2.91	2.76	2.83	2.74	2.75	2.89	2.93	3.42	3.36
4	3.42	3.10	2.72	2.90	2.77	2.83	2.74	2.79	2.89	2.92	3.43	3.32
5	3.45	3.04	2.73	2.90	2.77	2.85	2.74	2.83	2.89	2.92	3.43	3.29
6	3.45	3.01	2.72	2.89	2.79	2.85	2.77	2.87	2.89	2.94	3.40	3.28
7	3.47	2.99	2.72	2.88	2.81	2.86	2.82	2.88	2.89	2.95	3.34	3.26
8	3.48	2.99	2.72	2.87	2.82	2.87	2.84	2.87	2.88	2.96	3.26	3.24
9	3.48	2.99	2.73	2.86	2.84	2.89	2.84	2.86	2.88	2.97	3.25	3.23
10	3.44	2.99	2.73	2.85	2.83	2.90	2.83	2.88	2.88	3.00	3.35	3.21
11	3.41	3.00	2.73	2.85	2.84	2.90	2.83	2.91	2.89	3.02	3.42	3.22
12	3.37	3.00	2.73	2.85	2.85	2.88	2.83	2.91	2.90	3.02	3.45	3.23
13	3.33	3.00	2.74	2.83	2.86	2.89	2.82	2.89	2.91	3.04	3.44	3.25
14	3.27	2.99	2.76	2.82	2.86	2.88	2.83	2.87	2.90	3.04	3.44	3.26
15	3.23	3.00	2.78	2.84	2.86	2.88	2.82	2.82	2.92	3.04	3.45	3.23
16	3.19	3.00	2.78	2.85	2.86	2.87	2.83	2.79	2.91	3.04	3.48	3.21
17	3.18	2.98	2.78	2.89	2.85	2.85	2.86	2.78	2.90	3.04	3.57	3.20
18	3.18	2.99	2.81	2.91	2.83	2.82	2.92	2.80	2.88	3.04	3.68	3.17
19	3.19	3.02	2.84	2.93	2.84	2.81	2.95	2.83	2.88	3.04	3.72	3.15
20	3.16	3.03	2.87	2.95	2.84	2.81	2.94	2.84	2.88	3.04	3.72	3.16
21	3.15	3.00	2.89	2.96	2.85	2.81	2.92	2.84	2.87	3.05	3.69	3.16
22	3.14	3.00	2.90	2.96	2.85	2.82	2.89	2.84	2.87	3.05	3.66	3.15
23	3.15	3.02	2.94	2.95	2.83	2.84	2.83	2.84	2.88	3.15	3.65	3.16
24	3.16	3.00	2.92	2.94	2.82	2.86	2.80	2.83	2.89	3.16	3.63	3.16
25	3.17	2.96	2.88	2.93	2.83	2.85	2.76	2.82	2.87	3.17	3.58	3.21
26	3.18	2.94	2.86	2.91	2.86	2.83	2.75	2.81	2.87	3.20	3.54	3.23
27	3.16	2.93	2.83	2.88	2.86	2.82	2.72	2.81	2.89	3.23	3.54	3.24
28	3.16	2.89	2.85	2.86	2.85	2.80	2.70	2.81	2.89	3.25	3.54	3.26
29	3.16	2.87	2.90	2.83	---	2.79	2.69	2.81	2.89	3.25	3.51	3.28
30	3.17	2.83	2.91	2.83	---	2.78	2.68	2.82	2.90	3.26	3.47	3.29
31	3.33	---	2.91	2.81	---	2.76	---	2.84	---	3.28	3.43	---
MEAN	3.28	3.01	2.81	2.89	2.83	2.84	2.81	2.83	2.89	3.06	3.49	3.24
MAX	3.48	3.35	2.94	2.96	2.86	2.90	2.95	2.91	2.92	3.28	3.72	3.40
MIN	3.14	2.83	2.72	2.81	2.76	2.76	2.68	2.70	2.87	2.92	3.25	3.15

WTR YR 1981 MEAN 3.00 MAX 3.72 MIN 2.68

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

132824144464271. Local number, 2846541 ACEORP Tunnel.
LOCATION.--Lat 13°28'24" N., long 144°46'42" E., Hydrologic Unit 20100003, behind Navy Telephone Exchange, 0.35 mi (0.56 km) southwest of junction of Routes 1 and 14, Tamuning, Guam. Owner: U. S. Navy, Public Works Department.
AQUIFER.--Mariana Limestone.
WELL CHARACTERISTICS.--Dug basal water-table well consisting of an inclined shaft, three skimming tunnels, and a large pump room. Tunnels 1 and 2 are 150 ft (45.7 m) each and tunnel 3 is 700 ft (213 m) in length.
DATUM.--Altitude of land-surface datum is 180 ft (54.9 m). Measuring point: Top of wooden recorder shelf, 9.28 ft (2.829 m) above mean sea level.
REMARKS.--Recording gage installed October 1954.
PERIOD OF RECORD.--October 1954 to December 1959, September 1960 to May 1965, March 1973 to September 1977 records available in files of district office; October 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.95 ft (1.509 m) above mean sea level, May 22, 1976; lowest recorded, 1.98 ft (0.604 m) above mean sea level, Feb. 23, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.24	2.87	2.46	2.56	2.45	2.65	2.48	2.41	2.58	2.65	3.24	2.94
2	3.24	2.76	2.43	2.53	2.40	2.65	2.47	2.44	2.60	2.66	3.29	2.96
3	3.16	2.69	2.43	2.49	2.40	2.62	2.47	2.47	2.60	2.63	3.35	2.93
4	3.20	2.64	2.39	2.46	2.41	2.56	2.49	2.52	2.60	2.63	3.40	2.88
5	3.21	2.61	2.37	2.43	2.47	2.56	2.51	2.56	2.60	2.63	3.38	2.84
6	3.20	2.59	2.34	2.47	2.49	2.56	2.54	2.60	2.60	2.63	3.20	2.81
7	3.20	2.60	2.34	2.50	2.53	2.57	2.58	2.60	2.59	2.64	3.07	2.79
8	3.13	2.60	2.35	2.49	2.54	2.57	2.58	2.60	2.55	2.65	2.97	2.78
9	3.01	2.56	2.35	2.47	2.50	2.60	2.56	2.60	2.56	2.65	2.90	2.76
10	2.92	2.58	2.36	2.46	2.51	2.60	2.56	2.60	2.57	2.69	2.89	2.75
11	2.87	2.61	2.35	2.44	2.53	2.59	2.57	2.57	2.57	2.72	2.90	2.75
12	2.83	2.62	2.36	2.43	2.55	2.57	2.59	2.56	2.59	2.77	2.96	2.78
13	2.78	2.62	2.37	2.43	2.55	2.59	2.59	2.53	2.59	2.79	2.98	2.80
14	2.74	2.61	2.36	2.53	2.57	2.60	2.58	2.50	2.59	2.82	3.01	2.79
15	2.71	2.60	2.31	2.51	2.55	2.60	2.56	2.49	2.62	2.83	3.16	2.78
16	2.73	2.59	2.40	2.55	2.53	2.57	2.57	2.47	2.64	2.83	3.35	2.76
17	2.78	2.59	2.41	2.56	2.49	2.54	2.62	2.47	2.61	2.83	3.46	2.76
18	2.81	2.62	2.46	2.55	2.49	2.53	2.68	2.50	2.60	2.84	3.41	2.76
19	2.80	2.64	2.49	2.56	2.48	2.54	2.71	2.54	2.57	2.83	3.41	2.81
20	2.75	2.64	2.49	2.65	2.51	2.54	2.72	2.54	2.59	2.85	3.34	2.84
21	2.73	2.61	2.49	2.66	2.56	2.54	2.71	2.54	2.57	2.86	3.25	2.83
22	2.73	2.61	2.52	2.61	2.53	2.56	2.63	2.54	2.59	2.85	3.24	2.83
23	2.74	2.67	2.59	2.59	2.51	2.58	2.59	2.55	2.60	2.84	3.20	2.81
24	2.74	2.67	2.59	2.60	2.48	2.58	2.55	2.54	2.60	2.84	3.14	2.83
25	2.76	2.61	2.54	2.66	2.49	2.59	2.54	2.50	2.57	2.85	3.09	2.84
26	2.76	2.57	2.60	2.61	2.53	2.56	2.51	2.50	2.57	2.89	3.08	2.86
27	2.75	2.50	2.70	2.53	2.53	2.55	2.47	2.50	2.60	2.91	3.06	2.89
28	2.75	2.47	2.74	2.48	2.55	2.54	2.45	2.50	2.63	2.92	3.02	2.94
29	2.79	2.48	2.68	2.47	---	2.52	2.41	2.50	2.61	2.93	3.00	3.02
30	2.79	2.50	2.63	2.50	---	2.53	2.40	2.51	2.61	2.98	2.96	3.06
31	2.93	---	2.59	2.47	---	2.49	---	2.55	---	3.08	2.94	---
MEAN	2.90	2.61	2.47	2.52	2.50	2.57	2.56	2.53	2.59	2.79	3.15	2.84
MAX	3.24	2.87	2.74	2.66	2.57	2.65	2.72	2.60	2.64	3.08	3.46	3.06
MIN	2.71	2.47	2.31	2.43	2.40	2.49	2.40	2.41	2.55	2.63	2.89	2.75

WTR YR 1981 MEAN 2.67 MAX 3.46 MIN 2.31

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

132813144472771. Local number, 2847120 Barrigada Well 2 (A-16).
LOCATION.--Lat 13°28'13" N., long 144°47'27" E., Hydrologic Unit 20100003, at Carbullido School, 0.60 mi (0.97 km) west of junction of Routes 8 and 10, Barrigada, Guam. Owner: Public Utility Agency of Guam.
AQUIFER.--Mariana Limestone, probably Pliocene age.
WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 12 in (0.30 m), depth reported 215 ft (65.5 m).
DATUM.--Altitude of land-surface datum is 207 ft (63.1 m) above mean sea level. Measuring point: Top of casing, 208.00 ft (63.398 m) above mean sea level.
REMARKS.--Recording gage installed June 1974.
PERIOD OF RECORD.--June 1974 to September 1977 records available in files of district office; October 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.71 ft (2.045 m) May 22, 1976; lowest recorded, 3.09 ft (0.942 m) above mean sea level, Dec. 7, 8, 1974.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.58	4.18	3.75	3.82	3.66	3.74	3.60	3.52	3.63	3.74	4.34	4.29
2	4.69	4.11	3.73	3.80	3.64	3.75	3.60	3.52	3.66	3.76	4.47	4.27
3	4.61	4.03	3.72	3.78	3.62	3.75	3.60	3.55	3.68	3.74	4.49	4.25
4	4.56	3.97	3.69	3.73	3.62	3.74	3.60	3.59	3.68	3.74	4.50	4.20
5	4.53	3.92	3.65	3.71	3.65	3.74	3.60	3.63	3.68	3.75	4.52	4.16
6	4.51	3.91	3.62	3.71	3.67	3.73	3.61	3.66	3.68	3.76	4.48	4.15
7	4.51	3.89	3.60	3.71	3.68	3.74	3.64	3.68	3.67	3.77	4.40	4.09
8	4.50	3.89	3.60	3.71	3.71	3.75	3.66	3.68	3.65	3.77	4.29	4.03
9	4.42	3.88	3.60	3.71	3.70	3.75	3.65	3.68	3.64	3.77	4.21	4.00
10	4.32	3.87	3.60	3.69	3.70	3.74	3.64	3.69	3.65	3.78	4.33	3.98
11	4.25	3.86	3.60	3.69	3.70	3.71	3.65	3.68	3.65	3.80	4.42	3.99
12	4.19	3.87	3.60	3.67	3.71	3.69	3.66	3.66	3.67	3.86	4.38	3.99
13	4.13	3.88	3.59	3.65	3.72	3.69	3.67	3.63	3.68	3.90	4.37	4.02
14	4.09	3.87	3.59	3.70	3.73	3.70	3.65	3.60	3.68	3.93	4.37	4.03
15	4.04	3.86	3.58	3.71	3.74	3.71	3.65	3.59	3.68	3.94	4.44	4.03
16	4.02	3.85	3.60	3.74	3.72	3.69	3.64	3.57	3.70	3.96	4.71	4.03
17	4.05	3.85	3.62	3.75	3.70	3.66	3.66	3.56	3.70	3.97	4.94	4.02
18	4.08	3.85	3.64	3.75	3.68	3.63	3.71	3.60	3.68	3.98	4.95	4.01
19	4.08	3.87	3.68	3.76	3.67	3.63	3.78	3.61	3.68	3.98	4.85	4.02
20	4.05	3.87	3.69	3.80	3.68	3.63	3.82	3.61	3.70	4.00	4.75	4.06
21	4.02	3.86	3.69	3.83	3.73	3.63	3.84	3.62	3.69	4.00	4.69	4.06
22	4.01	3.85	3.71	3.81	3.72	3.64	3.80	3.62	3.70	4.02	4.64	4.07
23	4.01	3.87	3.75	3.79	3.70	3.65	3.72	3.64	3.70	4.02	4.61	4.06
24	4.01	3.87	3.77	3.79	3.62	3.67	3.67	3.63	3.71	4.02	4.59	4.04
25	4.02	3.85	3.74	3.82	3.68	3.67	3.62	3.62	3.70	4.02	4.46	4.05
26	4.04	3.84	3.75	3.81	3.69	3.65	3.60	3.62	3.70	4.03	4.44	4.06
27	4.04	3.83	3.85	3.74	3.71	3.63	3.58	3.61	3.70	4.04	4.43	4.10
28	4.03	3.80	3.92	3.70	3.72	3.64	3.55	3.60	3.72	4.05	4.40	4.15
29	4.04	3.78	3.91	3.68	---	3.62	3.53	3.59	3.73	4.05	4.37	4.18
30	4.06	3.78	3.86	3.69	---	3.61	3.53	3.60	3.72	4.06	4.33	4.24
31	4.17	---	3.83	3.69	---	3.60	---	3.61	---	4.16	4.30	---
MEAN	4.21	3.89	3.69	3.74	3.69	3.68	3.65	3.62	3.68	3.92	4.50	4.09
MAX	4.69	4.18	3.92	3.83	3.74	3.75	3.84	3.69	3.73	4.16	4.95	4.29
MIN	4.01	3.78	3.58	3.65	3.62	3.60	3.53	3.52	3.63	3.74	4.21	3.98

WTR YR 1981 MEAN 3.87 MAX 4.95 MIN 3.52

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

133032144491871. Local number, 3049311 Harmon Loop School Well M-10A.
LOCATION.--Lat 13°30'32" N., long 144°49'18" E., Hydrologic Unit 20100003, at Harmon Loop School, Dededo, Guam. Owner: Public Utility Agency of Guam.
AQUIFER.--Barrigada Limestone, revised.
WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 8 in (0.20 m), depth reported 288 ft (87.8 m).
DATUM.--Altitude of land-surface datum is 227 ft (69.2 m) above mean sea level. Measuring point: Top edge of shelter floor, 228.70 ft (69.708 m) above mean sea level.
REMARKS.--Well was abandoned in 1973 because of oil taste and high iron content. Recording gage installed January 1974.
PERIOD OF RECORD.--January 1974 to September 1977 records available in files of district office; October 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.61 ft (1.405 m) above mean sea level, May 23, 1976; lowest recorded, 2.27 ft (0.692 m) above mean sea level, Feb. 23, 24, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.34	3.25	2.86	2.96	2.85	3.02	2.88	2.85	3.02	3.04	3.52	3.25
2	3.44	3.19	2.83	2.94	2.81	3.03	2.87	2.87	3.03	3.06	3.64	3.26
3	3.37	3.10	2.83	2.91	2.81	3.01	2.87	2.91	3.04	3.04	3.68	3.25
4	3.33	3.07	2.81	2.88	2.81	2.97	2.88	2.95	3.04	3.04	3.70	3.21
5	3.35	3.04	2.78	2.85	2.85	2.96	2.90	2.98	3.04	3.04	3.72	3.17
6	3.34	3.02	2.75	2.88	2.88	2.96	2.93	3.01	3.03	3.05	3.64	3.14
7	3.36	3.00	2.75	2.89	2.90	2.97	2.96	2.97	3.03	3.06	3.54	3.11
8	3.33	3.00	2.75	2.89	2.93	2.97	2.98	3.02	3.01	3.06	3.43	3.10
9	3.28	2.94	2.76	2.88	2.91	2.99	2.97	3.02	3.01	3.07	3.35	3.09
10	3.20	2.94	2.76	2.87	2.91	3.01	2.96	3.02	3.02	3.09	3.32	3.06
11	3.11	2.98	2.75	2.85	2.93	3.00	2.97	3.03	3.02	3.10	3.31	3.06
12	3.09	2.99	2.75	2.84	2.94	2.99	2.98	2.99	3.03	3.12	3.27	3.09
13	3.07	3.00	2.76	2.80	2.95	2.98	2.99	2.96	3.03	3.15	3.26	3.11
14	3.03	2.99	2.77	2.93	2.97	3.00	2.97	2.95	3.03	3.17	3.33	3.11
15	2.99	2.99	2.77	2.92	2.96	2.99	2.97	2.94	3.03	3.18	3.45	3.10
16	3.04	2.98	2.81	2.94	2.94	2.98	2.98	2.93	3.04	3.21	3.57	3.09
17	3.07	2.98	2.82	2.96	2.91	2.96	3.01	2.93	3.04	3.22	3.64	3.08
18	3.08	3.02	2.85	2.95	2.91	2.93	3.06	2.94	3.03	3.23	3.64	3.08
19	3.07	3.04	2.88	2.96	2.90	2.95	3.11	2.96	3.01	3.24	3.67	3.08
20	3.05	3.05	2.89	3.01	2.91	2.95	3.14	2.97	3.01	3.26	3.65	3.11
21	3.03	3.04	2.88	3.03	2.95	2.95	3.14	2.97	3.01	3.26	3.61	3.12
22	3.03	3.04	2.90	3.01	2.94	2.96	3.10	2.98	3.02	3.26	3.58	3.13
23	3.05	3.06	2.94	2.99	2.93	2.98	3.04	2.98	3.03	3.26	3.54	3.13
24	3.05	3.07	2.96	2.99	2.91	2.99	3.00	2.98	3.03	3.26	3.46	3.12
25	3.07	3.04	2.93	3.03	2.91	2.99	2.97	2.96	3.01	3.27	3.40	3.13
26	3.06	2.99	2.99	3.01	2.92	2.98	2.94	2.95	3.01	3.29	3.37	3.15
27	3.07	2.93	3.10	2.94	2.93	2.96	2.91	2.95	3.02	3.31	3.33	3.20
28	3.07	2.89	3.10	2.91	2.94	2.95	2.88	2.94	3.02	3.34	3.30	3.31
29	3.09	2.89	3.05	2.87	---	2.93	2.86	2.95	3.02	3.35	3.28	3.39
30	3.11	2.89	3.00	2.88	---	2.92	2.85	2.96	3.03	3.37	3.26	3.42
31	3.23	---	2.99	2.87	---	2.90	---	2.98	---	3.43	3.24	---
MEAN	3.16	3.01	2.86	2.93	2.91	2.97	2.97	2.96	3.02	3.19	3.47	3.16
MAX	3.44	3.25	3.10	3.03	2.97	3.03	3.14	3.03	3.04	3.43	3.72	3.42
MIN	2.99	2.89	2.75	2.84	2.81	2.90	2.85	2.85	3.01	3.04	3.24	3.06

WTR YR 1981 MEAN 3.05 MAX 3.72 MIN 2.75

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

133047144500171. Local number, 3050400 Well M-11.
LOCATION.--Lat 13°30'47" N., long 144°50'01" E., Hydrologic Unit 20100003, at intersection of Harmon Loop School Road and Route 1 at Dededo, Guam. Owner: Public Utility Agency of Guam.
AQUIFER.--Barrigada Limestone.
WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 8 in (0.20 m), depth reported 325 ft (99.1 m).
DATUM.--Altitude of land-surface datum is 294 ft (89.6 m) above mean sea level. Measuring point: Top of casing, 295.82 ft (90.166 m) above mean sea level.
REMARKS.--Recording gage installed July 1977.
PERIOD OF RECORD.--July 1977 to September 1977 records available in files of district office; October 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.76 ft (1.451 m) above mean sea level, Oct. 2, 1980; lowest recorded, 2.78 ft (0.847 m) above mean sea level, Feb. 19, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.31	3.78	3.38	3.49	3.41	3.58	3.46	3.42	3.54	3.56	4.02	3.77
2	4.62	3.75	3.35	3.48	3.39	3.61	3.45	3.44	3.55	3.58	4.13	3.80
3	4.35	3.68	3.35	3.45	3.39	3.59	3.45	3.47	3.56	3.56	4.17	3.78
4	4.21	3.62	3.32	3.43	3.38	3.56	3.46	3.50	3.55	3.55	4.19	3.76
5	4.15	3.58	3.30	3.40	3.43	3.54	3.48	3.55	3.54	3.55	4.21	3.73
6	4.17	3.53	3.28	3.42	3.46	3.54	3.51	3.57	3.53	3.56	4.15	3.69
7	4.17	3.52	3.27	3.46	3.48	3.56	3.53	3.59	3.52	3.57	4.07	3.66
8	4.18	3.51	3.27	3.45	3.50	3.56	3.54	3.59	3.51	3.57	3.97	3.65
9	4.12	3.50	3.28	3.45	3.50	3.58	3.54	3.59	3.51	3.58	3.90	3.64
10	4.06	3.49	3.28	3.44	3.50	3.59	3.53	3.59	3.52	3.60	3.88	3.62
11	3.96	3.51	3.28	3.43	3.50	3.59	3.54	3.58	3.52	3.61	3.87	3.62
12	3.89	3.52	3.28	3.41	3.51	3.57	3.55	3.56	3.52	3.63	3.80	3.63
13	3.83	3.52	3.28	3.39	3.52	3.56	3.55	3.53	3.52	3.65	3.78	3.65
14	3.75	3.51	3.29	3.48	3.54	3.57	3.54	3.52	3.52	3.67	3.85	3.66
15	3.71	3.50	3.29	3.48	3.55	3.58	3.53	3.50	3.51	3.68	3.96	3.65
16	3.70	3.50	3.33	3.50	3.53	3.56	3.54	3.48	3.53	3.69	4.15	3.64
17	3.72	3.49	3.34	3.53	3.51	3.53	3.57	3.47	3.53	3.70	4.23	3.63
18	3.73	3.51	3.37	3.51	3.50	3.51	3.63	3.47	3.52	3.72	4.24	3.62
19	3.71	3.55	3.38	3.53	3.50	3.52	3.68	3.48	3.51	3.73	4.23	3.63
20	3.68	3.57	3.42	3.58	3.50	3.53	3.70	3.49	3.51	3.75	4.21	3.65
21	3.64	3.56	3.43	3.61	3.53	3.53	3.71	3.50	3.51	3.76	4.15	3.66
22	3.62	3.56	3.44	3.60	3.53	3.53	3.67	3.51	3.51	3.76	4.13	3.67
23	3.64	3.57	3.48	3.57	3.52	3.55	3.62	3.51	3.52	3.76	4.07	3.67
24	3.64	3.60	3.48	3.58	3.51	3.56	3.57	3.50	3.52	3.76	4.01	3.65
25	3.66	3.56	3.46	3.59	3.51	3.56	3.55	3.49	3.51	3.77	3.96	3.65
26	3.69	3.52	3.49	3.59	3.51	3.55	3.53	3.48	3.50	3.81	3.93	3.67
27	3.67	3.47	3.62	3.52	3.52	3.54	3.49	3.47	3.51	3.84	3.88	3.71
28	3.67	3.42	3.63	3.49	3.52	3.53	3.46	3.47	3.52	3.88	3.84	3.77
29	3.69	3.40	3.58	3.46	---	3.52	3.44	3.48	3.52	3.88	3.83	3.87
30	3.70	3.40	3.54	3.44	---	3.51	3.44	3.50	3.53	3.89	3.80	3.93
31	3.75	---	3.52	3.44	---	3.49	---	3.53	---	3.93	3.78	---
MEAN	3.88	3.54	3.39	3.49	3.49	3.55	3.54	3.51	3.52	3.70	4.01	3.69
MAX	4.62	3.78	3.63	3.61	3.55	3.61	3.71	3.59	3.56	3.93	4.24	3.93
MIN	3.62	3.40	3.27	3.39	3.38	3.49	3.44	3.42	3.50	3.55	3.78	3.62

WTR YR 1981 MEAN 3.61 MAX 4.62 MIN 3.27

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

133115144484971. Local number, 3148140 Harmon Well 1 (107).
LOCATION.--Lat 13°31'15" N., long 144°48'49" E., Hydrologic Unit 20100003, 500 ft (150 m) north of junction of Routes 1 and 16, Dededo, Guam. Owner: Government of Guam.
AQUIFER.--Mariana Limestone.
WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 10 in (0.25 m), depth measured 289 ft (88.1 m).
DATUM.--Altitude of land-surface datum is 268 ft (81.7 m) above mean sea level. Measuring point: Top of casing, 267.96 ft (81.674 m) above mean sea level.
REMARKS.--Recording gage installed March 1973.
PERIOD OF RECORD.--March 1973 to September 1977 records available in files of district office; October 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.34 ft (1.323 m) above mean sea level, May 22, 1976; lowest recorded, 2.17 ft (0.661 m) above mean sea level, Feb. 23, 24, 26, 27, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.22	3.02	2.73	2.86	2.72	2.98	2.79	2.75	2.94	3.00	3.54	3.13
2	3.18	2.95	2.72	2.82	2.68	2.96	2.78	2.78	2.96	3.01	3.62	3.15
3	3.10	2.87	2.73	2.77	2.70	2.91	2.78	2.82	2.96	2.97	3.63	3.11
4	3.15	2.82	2.69	2.74	2.70	2.86	2.80	2.86	2.96	2.97	3.69	3.06
5	3.16	2.83	2.66	2.71	2.78	2.86	2.82	2.90	2.96	2.98	3.67	3.01
6	3.16	2.81	2.62	2.79	2.78	2.87	2.86	2.93	2.95	3.00	3.52	2.98
7	3.16	2.82	2.63	2.78	2.81	2.88	2.90	2.93	2.94	3.00	3.38	2.97
8	3.10	2.81	2.64	2.78	2.83	2.88	2.90	2.92	2.92	3.02	3.27	2.95
9	2.99	2.79	2.64	2.75	2.80	2.91	2.88	2.92	2.92	3.03	3.20	2.95
10	2.93	2.80	2.63	2.73	2.82	2.92	2.88	2.93	2.95	3.06	3.19	2.93
11	2.89	2.83	2.62	2.72	2.86	2.91	2.89	2.92	2.95	3.07	3.15	2.94
12	2.87	2.83	2.63	2.71	2.86	2.89	2.91	2.88	2.95	3.08	3.12	2.98
13	2.83	2.84	2.65	2.75	2.87	2.91	2.91	2.86	2.96	3.09	3.12	3.00
14	2.80	2.84	2.66	2.90	2.89	2.92	2.88	2.85	2.96	3.11	3.19	3.01
15	2.78	2.85	2.66	2.85	2.86	2.92	2.88	2.83	2.94	3.12	3.37	2.99
16	2.85	2.84	2.72	2.88	2.83	2.89	2.89	2.82	2.99	3.13	3.44	2.98
17	2.90	2.85	2.73	2.88	2.79	2.86	2.94	2.82	2.97	3.14	3.45	2.98
18	2.89	2.89	2.77	2.86	2.79	2.84	3.01	2.85	2.94	3.16	3.42	2.97
19	2.85	2.93	2.79	2.88	2.78	2.86	3.04	2.87	2.93	3.16	3.53	2.98
20	2.80	2.93	2.78	2.96	2.81	2.86	3.06	2.88	2.94	3.18	3.49	2.99
21	2.79	2.90	2.78	2.94	2.86	2.86	3.04	2.88	2.93	3.20	3.46	3.00
22	2.80	2.91	2.79	2.90	2.83	2.88	2.96	2.89	2.95	3.20	3.43	3.01
23	2.82	2.96	2.84	2.89	2.81	2.90	2.91	2.90	2.97	3.19	3.34	3.01
24	2.84	2.95	2.85	2.90	2.78	2.90	2.87	2.89	2.97	3.20	3.28	3.00
25	2.85	2.89	2.80	2.97	2.81	2.91	2.85	2.88	2.95	3.22	3.23	2.99
26	2.86	2.85	2.96	2.90	2.84	2.88	2.82	2.87	2.95	3.25	3.19	3.01
27	2.85	2.77	3.07	2.82	2.84	2.87	2.78	2.87	2.97	3.27	3.15	3.04
28	2.85	2.76	3.00	2.78	2.87	2.86	2.76	2.87	2.96	3.29	3.13	3.09
29	2.92	2.78	2.93	2.75	---	2.83	2.75	2.87	2.95	3.29	3.13	3.17
30	2.93	2.78	2.89	2.77	---	2.84	2.74	2.88	2.98	3.32	3.10	3.22
31	3.02	---	2.89	2.75	---	2.80	---	2.91	---	3.39	3.10	---
MEAN	2.94	2.86	2.76	2.82	2.81	2.88	2.88	2.87	2.95	3.13	3.34	3.02
MAX	3.22	3.02	3.07	2.97	2.89	2.98	3.06	2.93	2.99	3.39	3.69	3.22
MIN	2.78	2.76	2.62	2.71	2.68	2.80	2.74	2.75	2.92	2.97	3.10	2.93

WTR YR 1981 MEAN 2.94 MAX 3.69 MIN 2.62

GROUND-WATER LEVELS

MARIANA ISLANDS, ISLAND OF GUAM

132615144470571. Local number, 2647100 Father Duenas Well.
LOCATION.--Lat 13°26'15" N., long 144°47'05" E., Hydrologic Unit 20100003, at Father Duenas Memorial School, Chalan Pago-Ordot, Guam.
AQUIFER.--Mariana Limestone.
WELL CHARACTERISTICS.--Drilled parabasal water-table well, diameter 8 in (0.2 m).
DATUM.--Altitude of land-surface datum is 179 ft (54.6 m). Measuring point: Top of casing, 179.86 ft (54.821 m) above mean sea level.
PERIOD OF RECORD.--March 1973 to May 1976 records available in files of district office; June 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.37 ft (3.161 m) above mean sea level, Oct. 24, 1980; lowest measured, 6.08 ft (1.853 m) above mean sea level, Aug. 5, 1980.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	10.37	DEC 29	8.13	MAR 12	7.75	MAY 18	7.40	JUN 23	7.36	AUG 24	8.34
NOV 26	8.58	FEB 2	7.88	APR 15	7.51						

132742144452971. Local number, 2745420 Agana Springs.
LOCATION.--Lat 13°27'42" N., long 144°45'29" E., Hydrologic Unit 20100003, near Sinajana on the edge of Agana Swamp.
AQUIFER.--Mariana Limestone.
WELL CHARACTERISTICS.--Basal ground water issues from an opening in the Mariana Limestone. The water level is measured in a pool with a concrete spillway.
DATUM.--Altitude of land-surface datum is 10 ft (3.0 m) above mean sea level. Measuring point: Edge of concrete spillway, 8.80 ft (2.682 m) above mean sea level.
REMARKS.--Spring supplied Agana with up to one million gallons per day. Not in use at present.
PERIOD OF RECORD.--April 1974 to September 1976 records available in files of district office; October 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Lowest water level measured, 6.95 ft (2.118 m) above mean sea level, July 2, 1975.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	j	DEC 29	j	MAR 10	j	APR 15	8.79	MAY 18	8.63	JUN 23	8.22
NOV 25	8.40	FEB 2	j								

j Water overflowing spillway.

132758144450571. Local number, 2745500 Agana 147 Well.
LOCATION.--Lat 13°27'58" N., long 144°45'05" E., Hydrologic Unit 20100003, on Route 4, 0.65 mi (1.0 km) south of junction of Routes 1 and 4 in Agana, Guam.
AQUIFER.-- Mariana Limestone.
WELL CHARACTERISTICS.--Drilled basal ground-water, revised, test well, casing diameter 6 in (0.15 m), depth when drilled, 186 ft (56.7 m), when measured in May 1973, 29 ft (8.8 m).
DATUM.--Altitude of land-surface datum is 33 ft (10.1 m). Measuring point: Top rim of casing, 33.22 ft (10.125 m) above mean sea level.
REMARKS.--Water levels in this well reflect changes in the regional fresh water head of the discharge area surrounding Agana Swamp.
PERIOD OF RECORD.--August 1955 to May 1960, January 1972 to September 1976 records available in files of district office; October 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.42 ft (9.577 m) above mean sea level, Oct. 14, 1955; lowest measured, 6.83 ft (2.082 m) above mean sea level, June 20, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	12.39	DEC 29	14.59	MAR 12	11.76	APR 15	11.03	MAY 18	10.59	JUN 23	10.14
NOV 25	16.83	FEB 2	12.47								

133034144500871. Local number 3050300 Well M-11A.
LOCATION.--Lat 13°30'34" N., long 144°50'08" E., Hydrologic Unit 20100003, in Macheche area, Dededo.
AQUIFER.--Barrigada Limestone.
WELL CHARACTERISTICS.--Drilled basal ground-water test well. Uncased hole diameter 12 in (0.30 m). Sounded depth 407 ft (124 m). Well deepened to 462 ft (141 m) as exploratory well Ex-6, Aug. 7, 1981.
DATUM.--Altitude of land-surface datum is 309 ft (94.2 m) above mean sea level. Measuring point: Top of 5 ft (2 m) long metal casing set in hole 310.44 ft (94.622 m) above mean sea level.
REMARKS.--Well yield insufficient for development.
PERIOD OF RECORD.--February 1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.09 ft (1.247 m) above mean sea level, Aug. 16, 1978; lowest measured 3.13 ft (0.954 m) above mean sea level, Feb. 26, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	3.53	DEC 30	3.50	MAR 10	3.68	MAY 11	3.74	JUN 15	3.79	SEP 25	3.75
NOV 25	3.53	FEB 12	3.38	APR 14	3.70						

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

MARIANA ISLANDS, ISLAND OF GUAM

LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	SEQ. NO.	STATION NUMBER	DATE OF SAMPLE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)
2647211 EXPLORATORY WELL	13 26 26	144 47 17	70	132626144471770	81-03-20	1200	170	3200	--
					81-03-20	1250	300	1900	--
					81-03-20	1345	390	22800	--
2746310 CHOCHOGO EX-1 WELL	13 27 36	144 46 16	70	132736144461670	81-01-13	1600	285	3000	--
					81-01-27	1330	300	4100	27.0
					81-01-27	1405	310	5800	26.5
					81-01-27	1435	320	11100	26.5
					81-01-27	1505	330	16300	26.5
					81-02-13	1305	285	3900	--
					81-02-13	1350	300	9600	--
					81-02-13	1420	310	11000	--
					81-02-13	1455	320	13000	--
					81-02-13	1525	330	16000	--
					81-02-13	1600	365	28000	--
					81-02-19	1130	175	1380	27.0
					81-02-19	1205	380	29100	27.0
					81-02-19	1245	400	36000	27.0
					81-02-19	1330	420	37100	27.0
3046050 YPAO NATURAL WELL	13 30 04	144 46 59	71	133004144465971	81-06-01	1400	--	--	--

DATE OF SAMPLE	TUR-BID-ITY (NTU)	DENSITY (GM/ML AT 20 C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
81-03-20	--	1.005	--	--	--	--	--	--	--	--	300	130
81-03-20	--	1.005	--	--	--	--	--	--	--	--	270	59
81-03-20	--	1.017	3300	3000	420	550	4500	74	34	140	310	1400
81-01-13	--	--	--	--	--	--	--	--	--	--	--	--
81-01-27	--	--	--	--	--	--	--	--	--	--	--	--
81-01-27	--	--	--	--	--	--	--	--	--	--	--	--
81-01-27	--	--	--	--	--	--	--	--	--	--	--	--
81-01-27	--	--	--	--	--	--	--	--	--	--	--	--
81-02-13	--	1.004	640	340	170	53	590	66	10	20	300	160
81-02-13	6.5	1.007	--	--	--	--	--	--	--	--	270	410
81-02-13	--	1.004	--	--	--	--	--	--	--	--	260	510
81-02-13	--	1.006	--	--	--	--	--	--	--	--	260	620
81-02-13	14	1.010	--	--	--	--	--	--	--	--	240	740
81-02-13	--	1.013	3600	3400	450	610	5500	76	40	170	210	1300
81-02-19	--	--	390	71	130	16	150	45	3.3	4.9	320	42
81-02-19	2.4	1.016	--	--	--	--	--	--	--	--	190	1600
81-02-19	1.6	1.018	--	--	--	--	--	--	--	--	170	2000
81-02-19	1.1	1.016	--	--	--	--	--	--	--	--	160	2100
81-06-01	--	--	240	36	84	6.3	42	28	1.2	2.8	200	17

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

MARIANA ISLANDS, ISLAND OF GUAM--Continued

DATE OF SAMPLE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
81-03-20	960	.2	8.1	--	--	.04	--	--	--
81-03-20	410	.2	6.0	--	--	.63	--	--	--
81-03-20	9000	.1	5.1	16200	22.0	.19	--	50	40
81-01-13	--	--	--	--	--	.00	--	--	--
81-01-27	--	--	--	--	--	.40	--	--	--
81-01-27	--	--	--	--	--	.39	--	--	--
81-01-27	--	--	--	--	--	.22	--	--	--
81-01-27	--	--	--	--	--	.11	--	--	--
81-02-13	1100	.2	6.6	2280	2.8	.47	310	50	40
81-02-13	2900	.2	6.5	--	--	.33	--	--	--
81-02-13	3500	.2	6.3	--	--	.30	--	--	--
81-02-13	4300	.2	6.3	--	--	.28	--	--	--
81-02-13	5100	.2	5.5	--	--	.13	--	--	--
81-02-13	11000	.3	5.1	19200	26.1	.10	--	130	290
81-02-19	260	.1	5.0	802	--	.31	--	<10	50
81-02-19	13000	.3	4.9	--	--	.08	--	--	--
81-02-19	15000	.3	5.1	--	--	.09	--	--	--
81-02-19	16000	.3	5.0	--	--	.07	--	--	--
81-06-01	74	.1	1.9	360	--	2.7	--	20	4

< Actual value is known to be less than the value shown.

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, YAP ISLANDS

	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	SEQ. NO.	STATION NUMBER	DATE OF SAMPLE	TIME	SAMP-LING DEPTH (FT)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)
2905010	LAMAER WELL, YAP	09 29 03	138 05 11	70	092903138051170	81-07-20	1550	91.0	--	62
2905201	WELL 1 COM., YAP	09 29 25	138 05 03	70	092920138043570	81-07-20	1400	82.0	29.0	40
2905203	MITSUI WELL, YAP	09 29 27	138 05 02	70	092927138050270	81-07-20	1440	85.0	29.5	48

DATE OF SAMPLE	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
81-07-20	.00	10	9.1	12	29	.7	.6	70	1.0	12	.0	63
81-07-20	.00	7.3	5.4	8.0	30	.5	.3	44	.3	7.4	.0	58
81-07-20	.00	12	4.3	8.9	29	.6	.5	56	<1.0	7.9	.0	42

DATE OF SAMPLE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
81-07-20	150	.11	60	0
81-07-20	114	.19	160	10
81-07-20	--	.13	30	0

< Actual value is known to be less than the value shown.

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, TRUK ISLANDS

LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	SEQ. NO.	STATION NUMBER	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)
WELL 1 MOEN, TRUK IS.	07 26 46	151 50 56	70	072658151511970	80-11-25	0825	--	28.0
					81-04-17	1135	194	--
					81-04-18	1120	198	--
					81-06-23	1008	--	--
WELL 2 MOEN, TRUK IS.	07 26 50	151 50 55	70	072654151511870	80-11-24	1555	--	28.5
					81-04-17	1125	157	--
					81-06-23	1004	--	--
WELL 3 MOEN, TRUK IS.	07 27 02	151 50 54	70	072708151511770	80-11-19	1115	--	29.0
WELL 4 MOEN, TRUK IS.	07 26 59	151 50 56	70	072707151512070	80-11-19	1030	--	29.5

DATE OF SAMPLE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
80-11-25	66	--	10	10	11	26	.6	1.0	--	--	--	--
81-04-17	--	--	--	--	--	--	--	--	--	--	10	--
81-04-18	--	--	--	--	--	--	--	--	--	--	10	--
81-06-23	--	--	--	--	--	--	--	--	--	--	10	--
80-11-24	57	4	8.9	8.5	8.6	24	.5	.7	53	4.5	10	.1
81-04-17	--	--	--	--	--	--	--	--	--	--	10	--
81-06-23	--	--	--	--	--	--	--	--	--	--	11	--
80-11-19	79	6	12	12	8.5	19	.4	1.0	73	.9	12	.1
80-11-19	110	30	16	16	12	19	.5	2.0	76	5.9	33	.1

DATE OF SAMPLE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
80-11-25	--	--	--	--	10	0
81-04-17	--	--	--	--	--	--
81-04-18	--	--	--	--	--	--
81-06-23	--	--	--	--	--	--
80-11-24	25	100	.14	.37	40	2
81-04-17	--	--	--	--	--	--
81-06-23	--	--	--	--	--	--
80-11-19	32	124	.17	.40	20	7
80-11-19	25	159	.22	.71	30	3

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, TRUK ISLANDS--Continued

LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	SEQ. NO.	STATION NUMBER	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)
WELL 7 MOEN, TRUK IS.	07 26 54	151 51 01	70	072702151512570	80-11-19	0945	--	28.5
					81-04-18	0920	364	--
					81-06-23	0915	--	--
WELL 8 MOEN, TRUK IS.	07 26 54	151 50 56	70	072702151512170	80-11-25	0750	--	29.0
					81-06-23	0958	--	--
					81-06-23	1016	--	--
WELL 9 MOEN, TRUK IS.	07 26 55	151 51 03	70	072701151512770	80-11-19	0845	--	28.0
					81-04-17	1034	3150	--
					81-04-18	1040	2950	--
					81-06-23	0810	--	--
WELL 10 MOEN, TRUK IS.	07 26 57	151 50 47	70	072704151511070	80-11-19	0815	--	28.5
					81-06-23	0838	--	--

DATE OF SAMPLE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
80-11-19	140	20	23	20	13	17	.5	1.6	120	3.4	34	.1
81-04-18	--	--	--	--	--	--	--	--	--	--	29	--
81-06-23	--	--	--	--	--	--	--	--	--	--	33	--
80-11-25	130	70	21	20	13	17	.5	1.1	65	3.0	72	.2
81-06-23	--	--	--	--	--	--	--	--	--	--	83	--
81-06-23	--	--	--	--	--	--	--	--	--	--	87	--
80-11-19	480	370	93	59	250	53	5.0	8.7	110	71	590	.1
81-04-17	--	--	--	--	--	--	--	--	--	--	900	--
81-04-18	--	--	--	--	--	--	--	--	--	--	800	--
81-06-23	--	--	--	--	--	--	--	--	--	--	390	--
80-11-19	70	8	12	9.6	8.1	20	.4	1.0	62	4.0	18	.1
81-06-23	--	--	--	--	--	--	--	--	--	--	27	--

DATE OF SAMPLE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
80-11-19	33	203	.28	.43	420	1
81-04-18	--	--	--	--	--	--
81-06-23	--	--	--	--	160	--
80-11-25	30	204	.28	1.0	30	1
81-06-23	--	--	--	--	--	--
81-06-23	--	--	--	--	--	--
80-11-19	26	1170	1.6	.43	80	30
81-04-17	--	--	--	--	--	--
81-04-18	--	--	--	--	--	--
81-06-23	--	--	--	--	160	--
80-11-19	26	117	.16	.30	30	4
81-06-23	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

CAROLINE ISLANDS, TRUK ISLANDS--Continued

LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	SEQ. NO.	STATION NUMBER	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)
WELL 12 MOEN, TRUK IS.	07 26 58	151 51 00	70	072706151512470	80-11-19	1015	--	29.5
					81-04-18	1025	370	--
					81-06-23	0922	--	--
WELL 13 MOEN, TRUK IS.	07 27 01	151 50 56	70	072708151512170	81-04-17	1051	228	--
					81-06-23	0937	--	--
WELL 14 MOEN, TRUK IS.	07 26 58	151 51 02	70	072705151512670	80-11-19	0910	--	29.0
WELL 15 MOEN, TRUK IS.	07 27 03	151 51 01	70	072710151512570	80-11-19	0930	--	--
					81-06-23	0907	--	--
2750030 POWER PLANT WELL	07 27 05	151 50 36	70	072705151503670	81-06-23	1027	--	--
2750050 MILLION GAL RES	07 27 05	151 50 51	70	072705151505170	81-06-23	0945	--	--

DATE OF SAMPLE	HARD-NESS (MG/L) AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L) AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L) AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
80-11-19	140	37	20	21	11	15	.4	1.2	99	5.7	43	.1
81-04-18	--	--	--	--	--	--	--	--	--	--	46	--
81-06-23	--	--	--	--	--	--	--	--	--	--	76	--
81-04-17	--	--	--	--	--	--	--	--	--	--	14	--
81-06-23	--	--	--	--	--	--	--	--	--	--	19	--
80-11-19	130	37	21	20	13	17	.5	1.0	98	10	40	.1
80-11-19	90	19	13	14	7.8	16	.4	.5	71	5.7	21	.1
81-06-23	--	--	--	--	--	--	--	--	--	--	14	--
81-06-23	--	--	--	--	--	--	--	--	--	--	30	--
81-06-23	--	--	--	--	--	--	--	--	--	--	28	--

DATE OF SAMPLE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
80-11-19	27	190	.26	.32	80	2
81-04-18	--	--	--	--	--	--
81-06-23	--	--	--	--	--	--
81-04-17	--	--	--	--	--	--
81-06-23	--	--	--	--	--	--
80-11-19	23	189	.26	.39	20	100
80-11-19	27	135	.18	.65	20	9
81-06-23	--	--	--	--	--	--
81-06-23	--	--	--	--	310	--
81-06-23	--	--	--	--	280	--

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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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