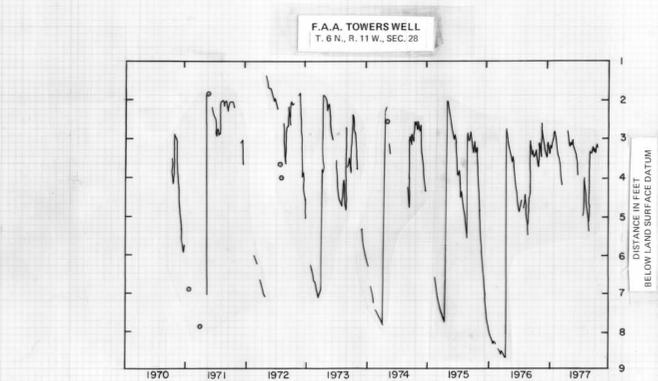
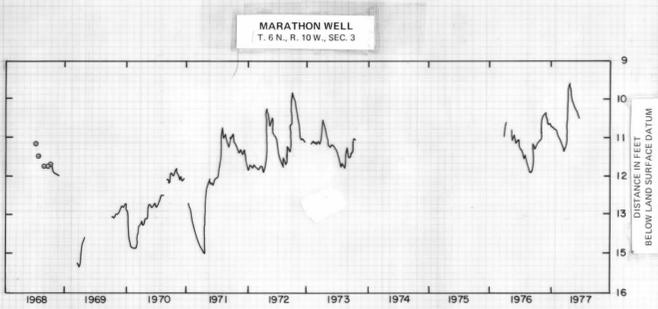
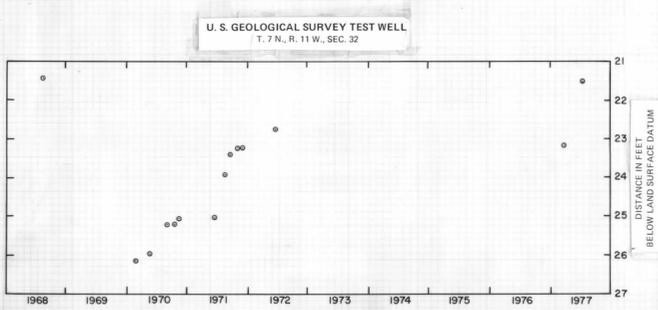
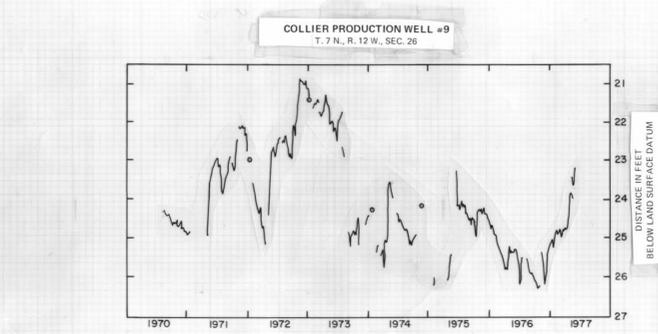
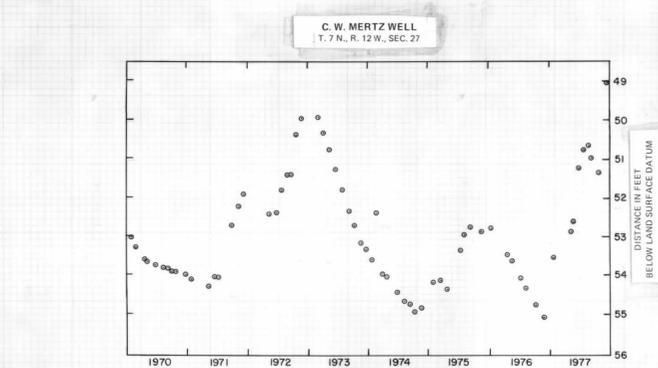
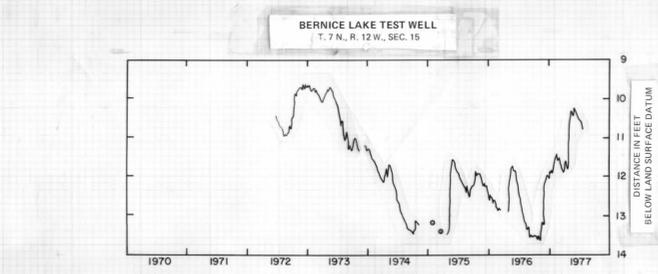
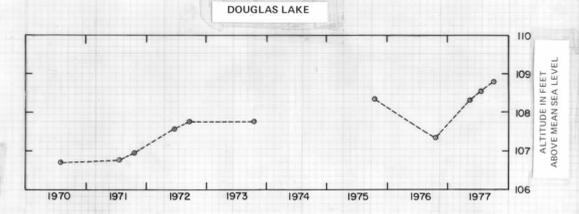
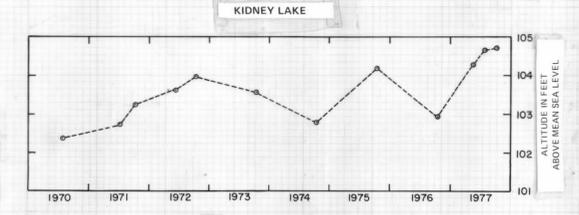
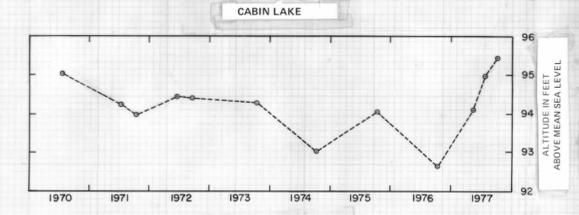
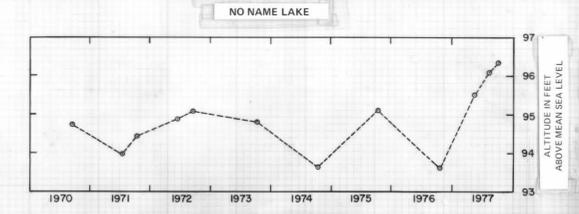
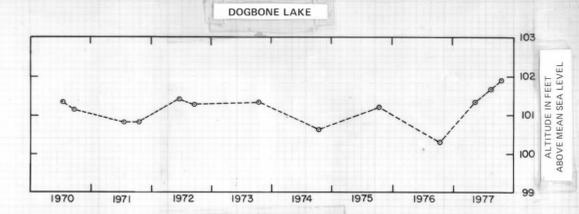
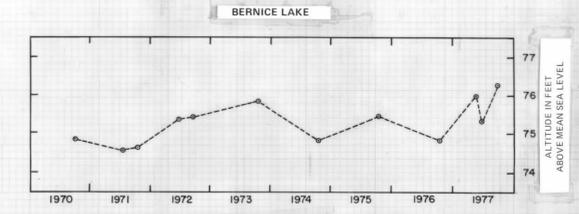
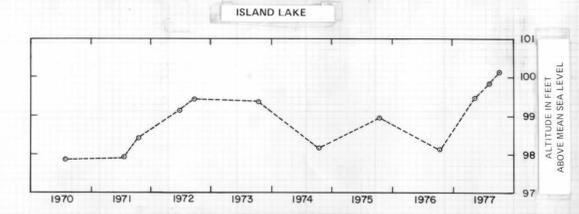
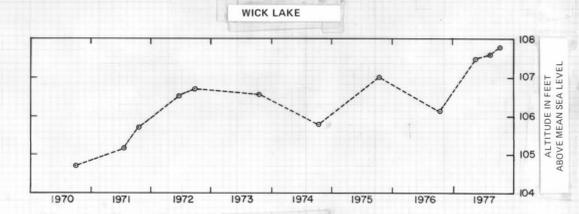
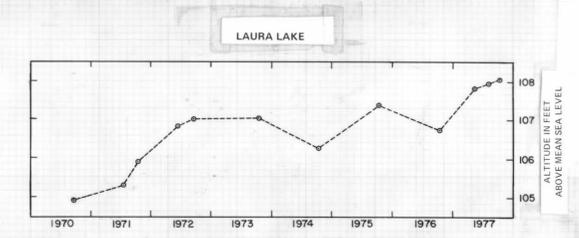




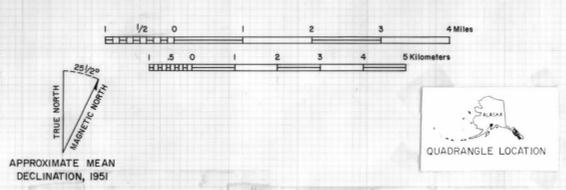
GENERALIZED MAP OF WATER-TABLE CONTOURS



WELL HYDROGRAPHS



LAKE HYDROGRAPHS



**ABSTRACT**

This report contains basic hydrologic data for the North Kenai area, Alaska, located about 60 miles southeast of Anchorage on the east side of Cook Inlet. Precipitation data for the Nikiski Terminal and Kenai Airport, water-level data for nine lakes, and water-table hydrographs for six wells are included. In addition, a generalized water-table contour map for the period prior to major development (before 1970) and the summer of 1977 are presented.

**INTRODUCTION**

The North Kenai area has grown rapidly in recent years, and the use of ground water resources has significantly increased. Because of this, public and industrial interest has centered on availability of ground water. This report provides hydrologic data pertaining to the unconfined ground-water resources of the area. The report is prepared in cooperation with the U. S. Geological Survey, Water Resources Division. The study area, situated directly north of the City of Kenai, is located in Townships 7 and 8 North and Ranges 11 and 12 West and is bordered on the west and northeast by Cook Inlet.

Basic hydrologic data for the area have been previously presented by Anderson and Jones (1971, 1972), Dames and Moore (1967, 1976) and the U. S. Geological Survey in their annual reports on water resources data for Alaska.

**HYDROLOGIC DATA**

This report presents hydrologic data obtained by measuring depth to ground water in the shallow aquifer, water levels in lakes, and precipitation.

The amount of precipitation received monthly as measured at Nikiski Terminal and the Kenai Airport is shown in the graphs to the right. Precipitation data were obtained from the Climatological Records of the National Oceanic and Atmospheric Administration furnished by the Alaska Environmental Information and Data Center. The graphs indicate that most of the precipitation falls as rain in August, September, and October. Average monthly precipitation for both gages is shown in table 1. Annual precipitation ranges from 13.52 to 32.41 inches for the Nikiski Terminal (annual average of 17.17 inches for years with complete records) and from 11.02 to 24.87 inches for the Kenai Airport (annual average of 18.86 inches). Both gages recorded unusually low precipitation in 1966 and 1969.

The U. S. Geological Survey has surveyed the water levels of lakes in the North Kenai area to a hundredth of a foot once or twice a year since 1970. These water levels (referred to mean sea level) have been plotted and connected with straight dashed lines (right). In general, lake levels were relatively low from 1967 to 1970 (Anderson and Jones, 1972). All lake levels rose in 1972, 1975, and 1977. In 1974 and 1976, lake levels declined.

The trace and data plots on the hydrographs (left) indicate the depth of the water level in wells located in the

**REFERENCES**

Anderson, G. S., Jones, S. H., 1971a, Lake level fluctuations in the Kenai-Soldotna area, Alaska: U. S. Geol. Survey open-file report, 5 p.

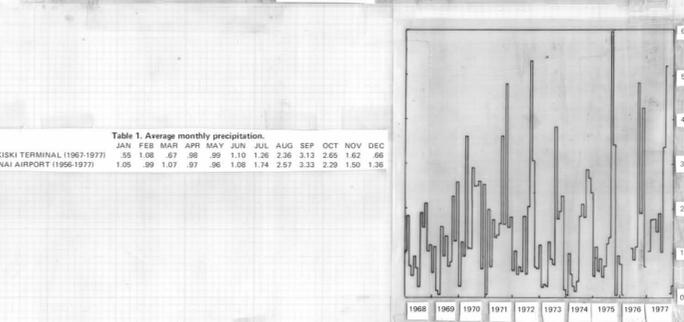
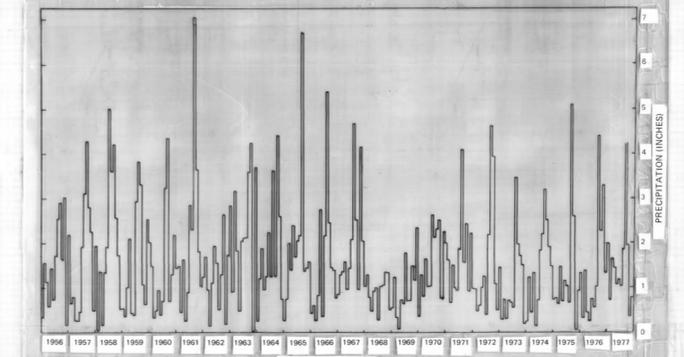
1971b, Hydrologic data of the Kenai-Soldotna area, Alaska: U. S. Geol. Survey open-file report, 32 p.

1972, Water resources of the Kenai-Soldotna area, Alaska: U. S. Geol. Survey open-file report, 129 p.

Dames and Moore, 1967, Ground water investigations, fertilizer plant near Kenai, Alaska for Collier Carbon and Chemical Corporation: Dames and Moore Report 4629-106-10-00.

1967, Ground water investigation, interrelationship between surface and subsurface systems, North Kenai area, Alaska, for Collier Carbon and Chemical Corporation: Dames and Moore Report 4629-106-02-00-02.

U. S. Geological Survey, 1967-1977, Water resources data for Alaska, water year (as indicated): U. S. Geol. Survey (Water-Data Report, unnumbered) and U. S. Geol. Survey Water-Data Report, AK-79-1, AK-76-1.



PRECIPITATION DATA

**Table 1. Average monthly precipitation.**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NIKISKI TERMINAL (1967-1977)	56	1.08	6.7	58	89	110	1.26	2.36	3.13	2.65	1.62	56
KENAI AIRPORT (1966-1977)	1.05	99	1.07	97	96	1.08	1.14	2.57	3.33	2.29	1.50	3.56

SELECTED HYDROLOGIC DATA RELATED TO THE WATER-TABLE AQUIFER OF THE NORTH KENAI AREA, ALASKA

BY MARK D. HOWLAND & GEOFFREY W. FRETHEY  
MAY 1978

PREPARED IN COOPERATION WITH THE U.S. GEOLOGICAL SURVEY.

This is a preliminary publication of the Alaska Division of Geological and Geophysical Surveys and as such has not received final editing and review. The author will appreciate candid comments on the accuracy of the data, and welcome suggestions that will improve the report.