UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUMMARY OF HYDROLOGIC DATA COLLECTED DURING 1974 IN DADE COUNTY, FLORIDA

OPEN-FILE REPORT FL-75012

Prepared in cooperation with
DADE COUNTY, MIAMI-DADE WATER AND SEWER AUTHORITY, CITY OF MIAMI BEACH, BUREAU OF GEOLOGY, FLORIDA DEPARTMENT OF NATURAL RESOURCES, FLOOD CONTROL DISTRICT, NATIONAL PARK SERVICE, CORPS OF ENGINEERS, U.S. AIR FORCE, and U.S. NAVY

Tallahassee, Florida
1975

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INTRODUCTION

This report is ninth in a series documenting the annual hydrologic conditions in Dade County, Florida. The hydrologic conditions in Dade County for the 1974 water year (October 1, 1973 to September 30, 1974) except for rainfall are summarized in tables, graphs, and maps. The locations of ground-water data-collection stations are shown in figure 1, rainfall and surface-water stations in figure 2, and water-quality sampling stations in figure 43. As shown, the network of stations is extensive. The long-term records (1940 to 1974) furnish background information vital in the analysis of effects of water-management practices.

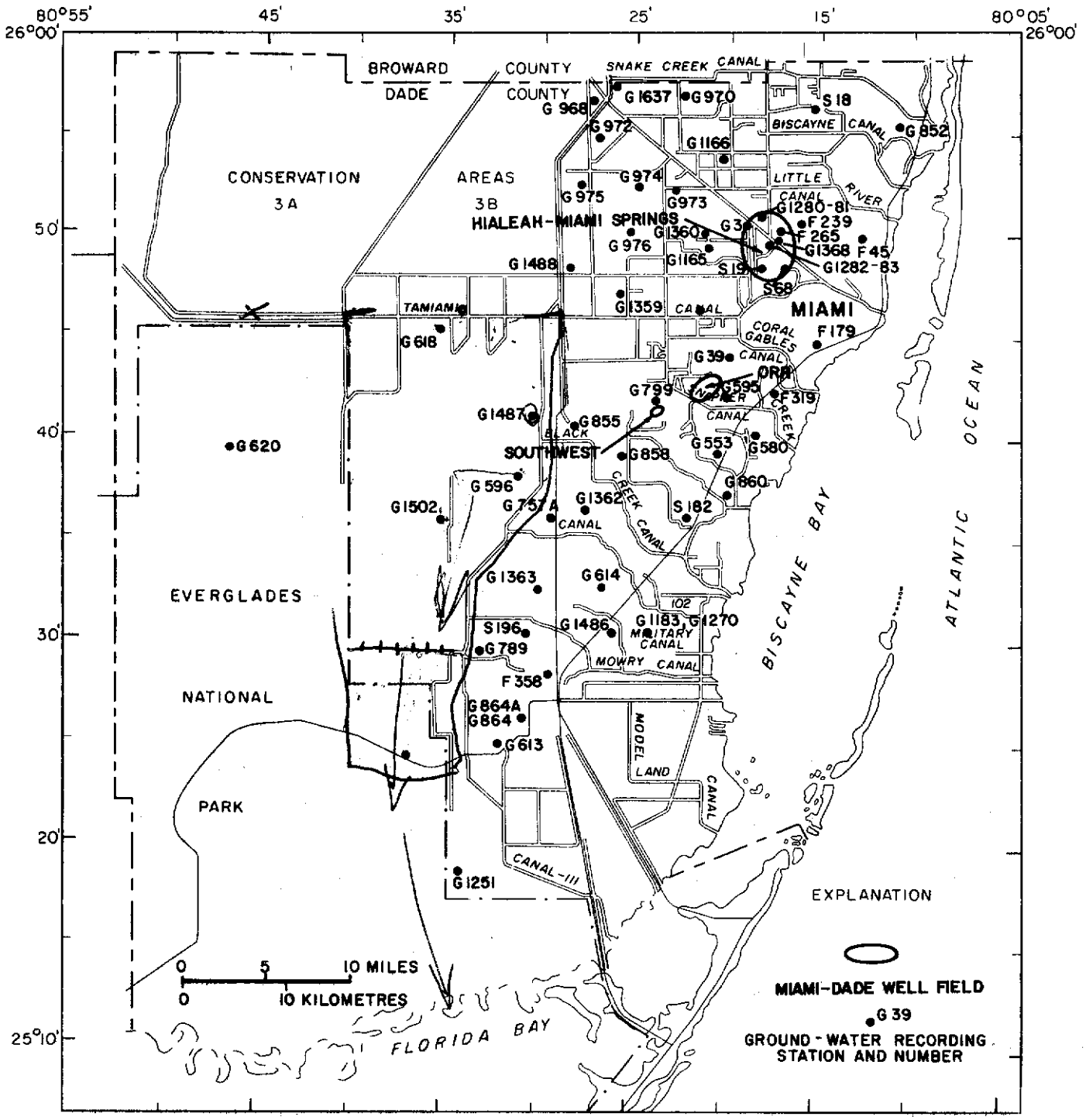

Figure 1.--Locations of ground-water stations, and Miami-Dade well fields.

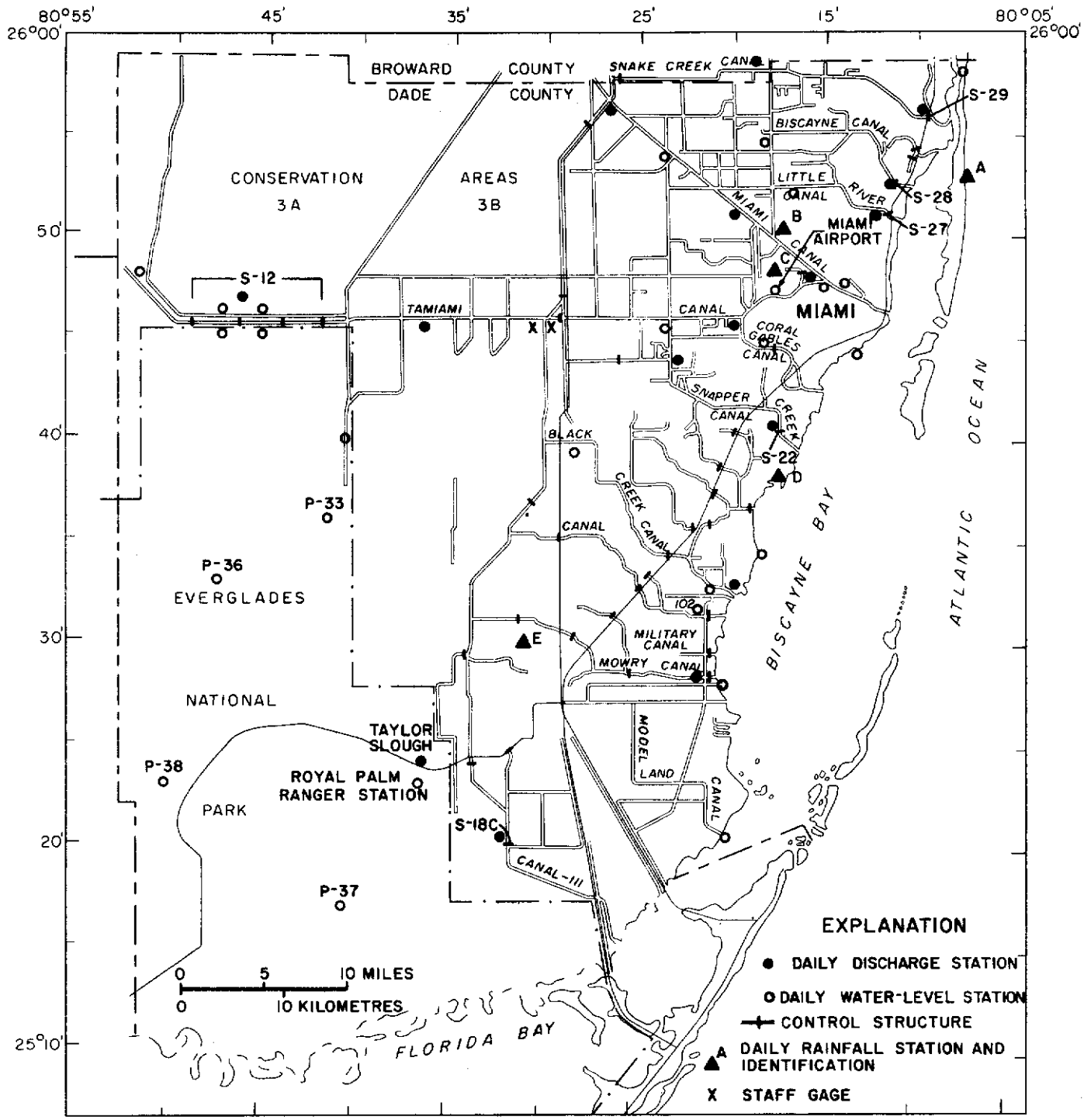

Figure 2.--Locations of surface-water and selected rainfall stations.

This report was prepared by the U. S. Geological Survey in cooperation with Dade County; Miami-Dade Water and Sewer Authority; city of Miami Beach; Florida Department of Natural Resources, Division of Interior Resources, Bureau of Geology; Central and Southern Florida Flood Control District; National Park Service; Corps of Engineers; U. S. Air Force; and the U. S. Navy.

FACTORS FOR CONVERTING ENGLISH UNITS TO METRIC UNITS

The following factors may be used to convert the English units published herein to metric units.

Multiply English unit	By	To obtain metric units
Length		
inches (in.)	25.4	millimetres (mm)
	.0254	metres (m)
feet (ft)	.3048	metres (m)
miles (mi)	1.609	kilometres (km)
Area		
square miles (mi^2)	2.590	square kilometres (km^2)
Volume		
million gallons (Mgal)	3785	cubic metres (m^3)
acre-feet (acre-ft)	1233	cubic metres (m^3)
Flow		
cubic feet per second (ft^3/s)	.02832	cubic metres per second (m^3/s)
million gallons per day (Mgal/d)	.04381	cubic metres per second (m^3/s)

SUMMARY

During the 1974 calendar year rainfall was 18.53 inches below the long-term average. Ground-water levels ranged from 0.1 foot above to 0.4 foot below average. The highest and lowest ground-water levels for the year were both 1 foot below their long-term averages. In the Hialeah-Miami Springs area, ground-water levels in wells near the centers of the heaviest pumping ranged from 9.7 to 11.4 feet below msl (mean sea level, 1929); and in the Southwest well-field area, ground-water levels near the centers of pumping ranged from 3.0 feet above to 4.8 feet below msl.

In the 1974 water year, the combined average daily discharge from eight major streams and canals that flow into Biscayne Bay was 890 ft^3/s, 230 ft^3/s below the combined average daily flow for the 1973 water year. The combined average daily flow through the Tamiami Canal outlets was 760 ft^3/s, 58 ft^3/s below that of the 1973 water year.

The 1974 position of the salt front in the coastal part of the Biscayne aquifer was about the same as in 1973 except at Miami International Airport and Homestead Air Force Base where the salt front had encroached farther inland.

RAINFALL

The average annual rainfall for Dade County based on 30-year records at four locations is 57.17 inches (table 1). During 1974 the rainfall averaged 38.64 inches, 18.53 inches below the long-term average. Rainfall on the approximately 2,300-square-mile county area during 1974 ranged from 33.45 inches at the Plant Introduction Station (station D in figure 2) to 49.00 inches at the Miami International Airport (station C in figure 2).

In 1974, rainfall was above average in January and the peak rainfall months were July and August. The rainfall in August was 6.1 inches, 1.0 inches below the long-term average. Figure 3 shows the monthly rainfall during 1974 and the average monthly.

Although Dade County was not in the direct path of any tropical storm during 1974 much of the rainfall in July and August came as a result of tropical depressions passing over the south end of the Florida peninsula. The highest rainfall, 9.72 inches, occurred in August at the Homestead Experimental Station (station E, fig. 2).

Table 1.--Summary of precipitation data by stations

	1974 Calendar Year (Inches)	Average (Inches)
Miami Beach (A)	28.68	46.54
Miami International Airport (C)	49.00	59.80
Plant Introduction Station (D)	33.45	59.33
Homestead Experiment Station (E)	43.43	62.99
Average of above locations	38.64	57.17

Note.--Letters identify stations on figure 2.

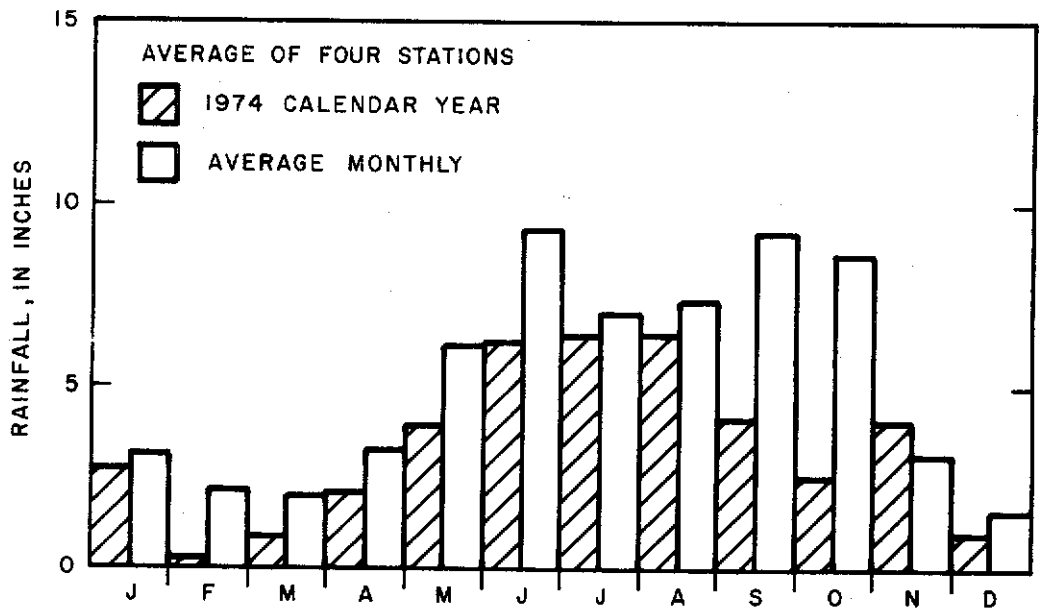

Figure 3. --Dade County monthly rainfall for the 1974 calendar year and the average monthly rainfall.

GROUND WATER

The chief source of fresh ground water in Dade County is the Biscayne aquifer--a highly permeable limestone and sandstone aquifer capable of yielding large quantities of water suitable for municipal, industrial, and agricultural use. The aquifer is 80 to 150 feet thick along the east coast and is less than 10 feet thick along the west edge of the county. Because of the highly permeable nature of the aquifer, and the good hydraulic connection between the aquifer and streams, water levels in wells and in canals and streams are closely related. The ground-water level rises in response to rainfall and surface-water inflow; and declines in response to evapotranspiration, surface-water outflow, seepage to the ocean, and pumping of wells.

The controlled drainage canals in the county discharge excess rainfall to the ocean during wet periods; they redistribute stored ground water from areas where the water table is high and stored surface water from the conservation areas to the coastal ridge for replenishment of the Biscayne aquifer and abatement of salt-water intrusion during dry periods.

Water Levels

During the 1974 water year, water-level fluctuations were recorded continuously in 54 wells to determine the effectiveness of water-control facilities. The locations of these wells are shown on fig. 1. Long-term fluctuations of ground-water levels in wells S-18 and S-196 and rainfall in the northeast and south-central parts of the county are shown in figures 4 and 5.

Water levels in well S-18 in northeast Dade County stabilized since completion of the canal system in the mid 1950's (fig. 4). In the 1960's, seasonal fluctuations were less, and the average stage of the water table was higher than in the 1940's. For the 1974 water year the average water level in well S-18 was 2.1 feet above msl and equal to the 1960-74 average.

The influence of rainfall on water levels in well S-196 in south central Dade County is indicated by the wide range in fluctuations (fig. 5). In the 1974 water year the average water level in well S-196 was 2.9 feet above msl equal to the 1960-74 average.

Water-level contour maps of Dade County showing, respectively, the average, the average yearly highest, the average yearly lowest and the average monthly October and May ground-water levels during the calendar years 1960-74 are presented in figures 6 through

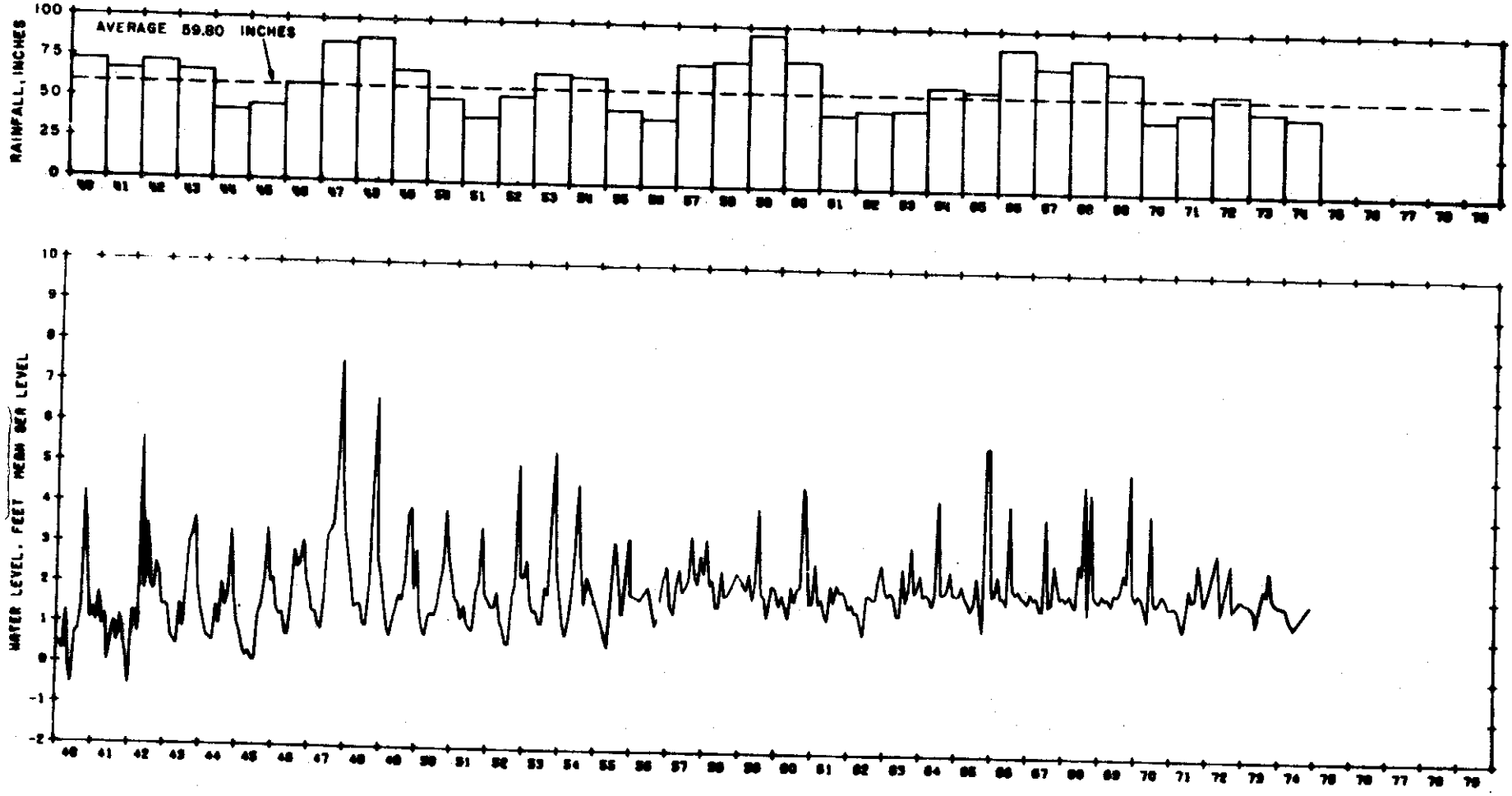

Figure 4. --Well S-18 and annual rainfall at the Miami International Airport in northeast Dade County, 1940-74 calendar years.

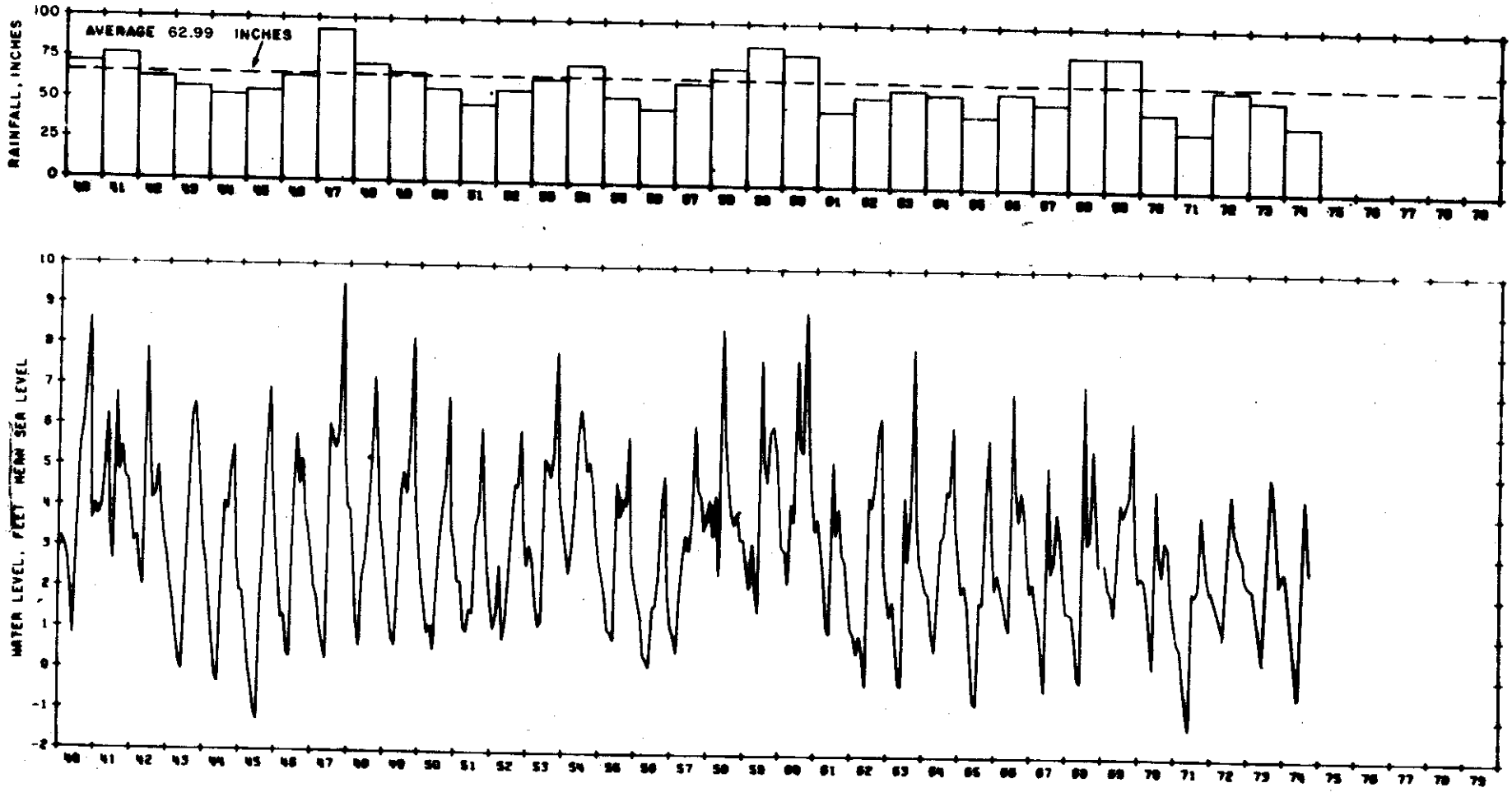

Figure 5.--Well S-196 and annual rainfall at the Homestead Experiment Station in south-central Dade County, 1940-73 calendar years.

10. The maps are updated each year and are used by local water managers in evaluating the effectiveness of current operations and in planning future water-control works. They are also helpful in determining areas for developing water supplies and in establishing local building codes. The maps show that the highest water levels are in Conservation Area 3, and that on the average, levels decline below sea level at the end of each dry season in the south part of Everglades National Park.

Average water levels for the 1974 water year ranged from 0.1 foot above to 0.4 foot below the 1960-74 average. The 1974 water levels reflect 4 years of deficient rainfall.

Hydrographs of selected wells that are representative of the effects of different land use practices and drainage areas are shown in figures 11 through 20. Water-level fluctuations during the 1974 water year are compared with average fluctuations during 1960-74 to detect changes in long-term trends and yearly extremes. These data are summarized in table 2.

Water-level contours for the end of May, 1974 are shown on figure 21 and for the end of October, 1974 on figure 22. May 1974 water levels ranged from 7 feet above msl in Conservation Area 3A

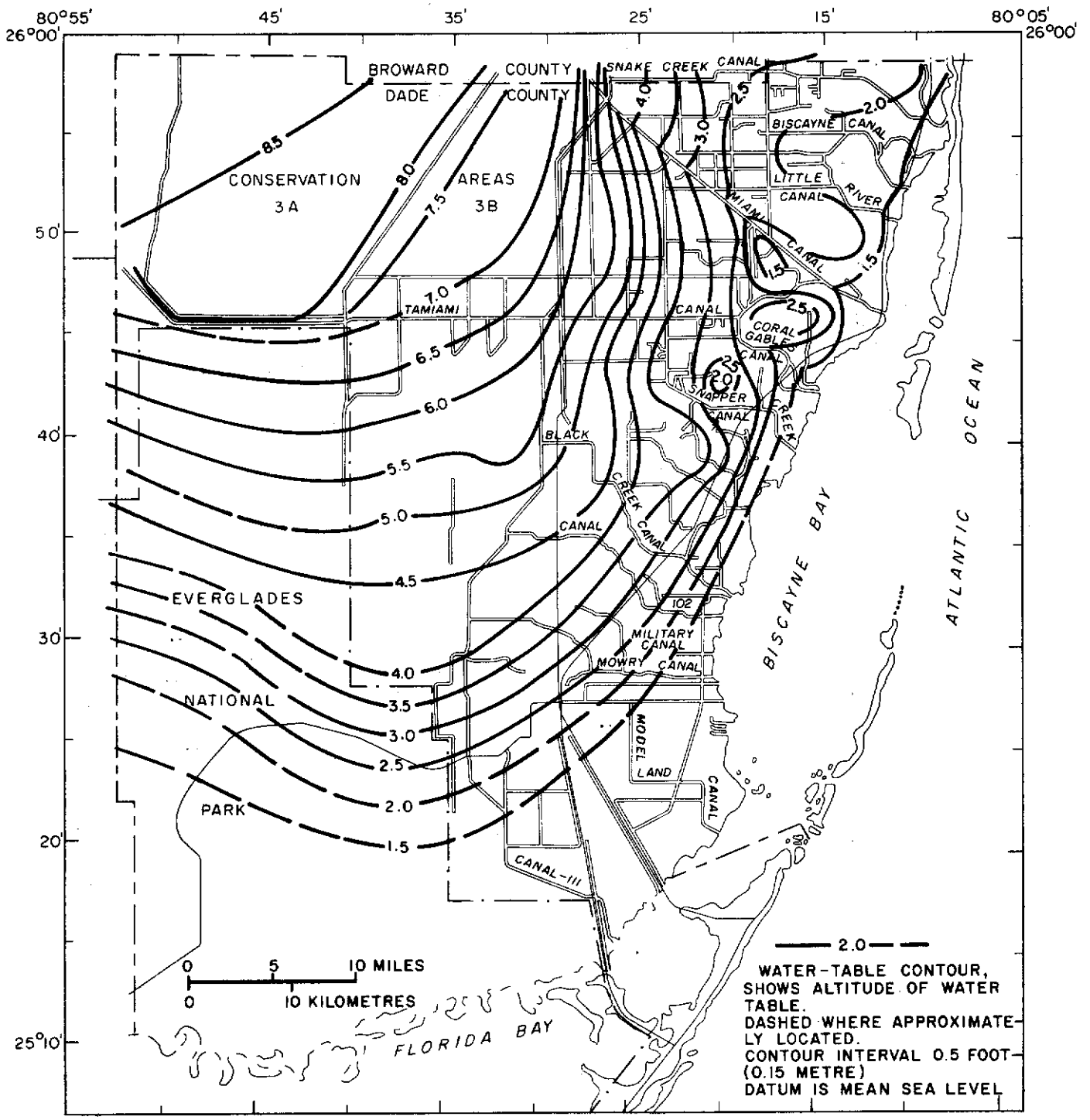

Figure 6.--Contours of average ground-water level, 1960-74 calendar years.

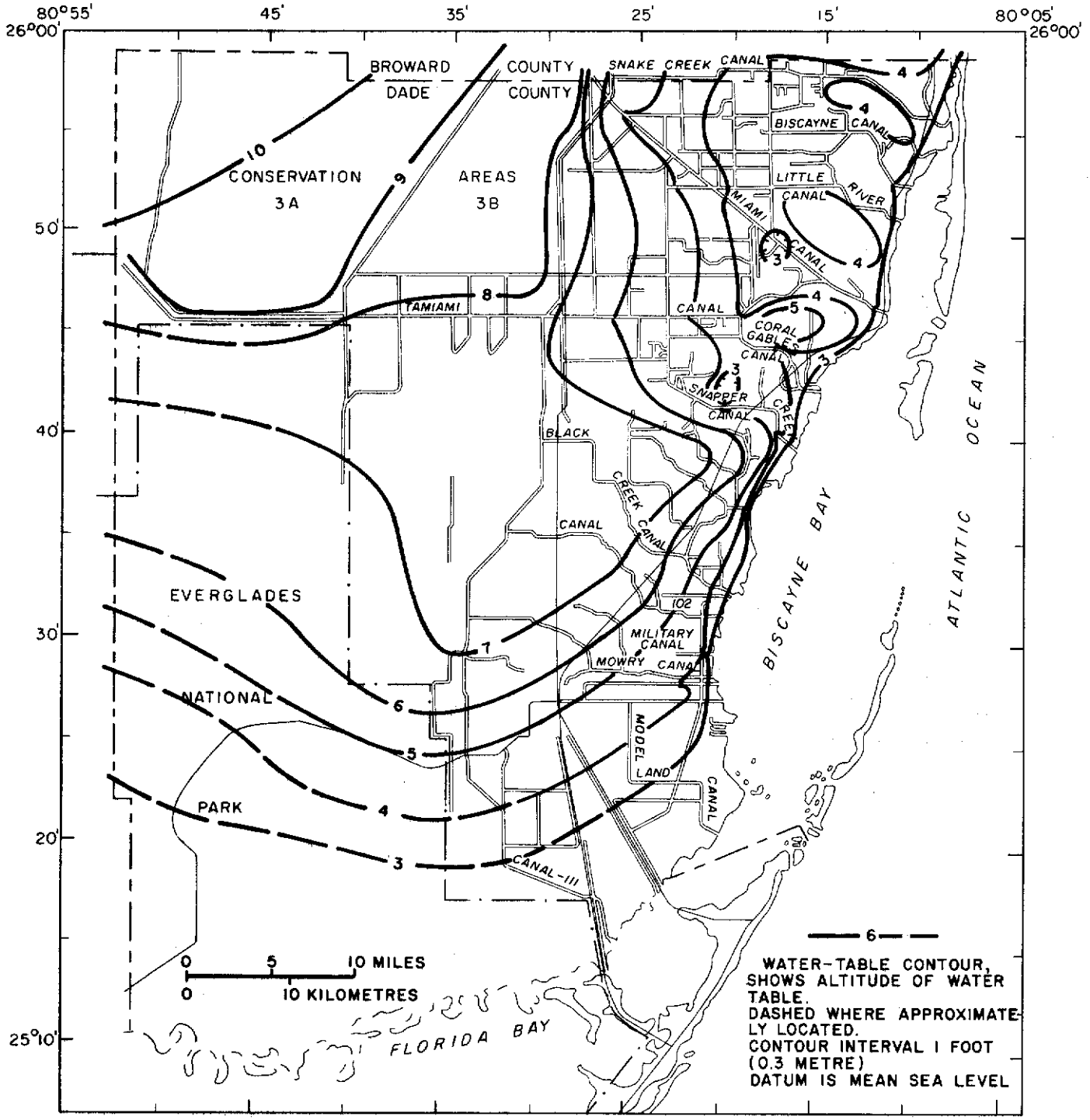

Figure 7.--Contours of average yearly highest ground-water level, 1960-74 calendar years.

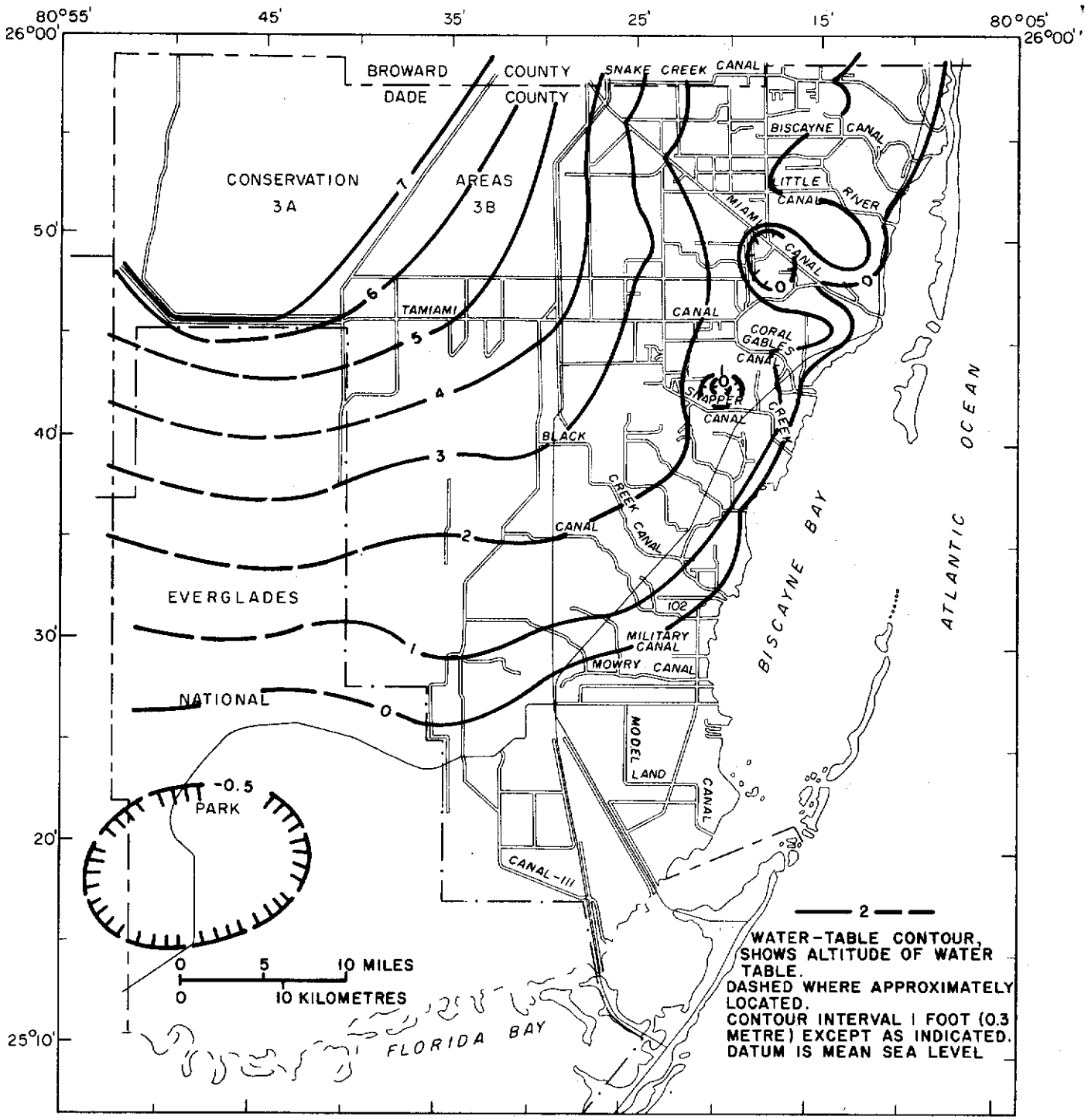

Figure 8.--Contours of average yearly lowest ground-water level, 1960-74 calendar years.

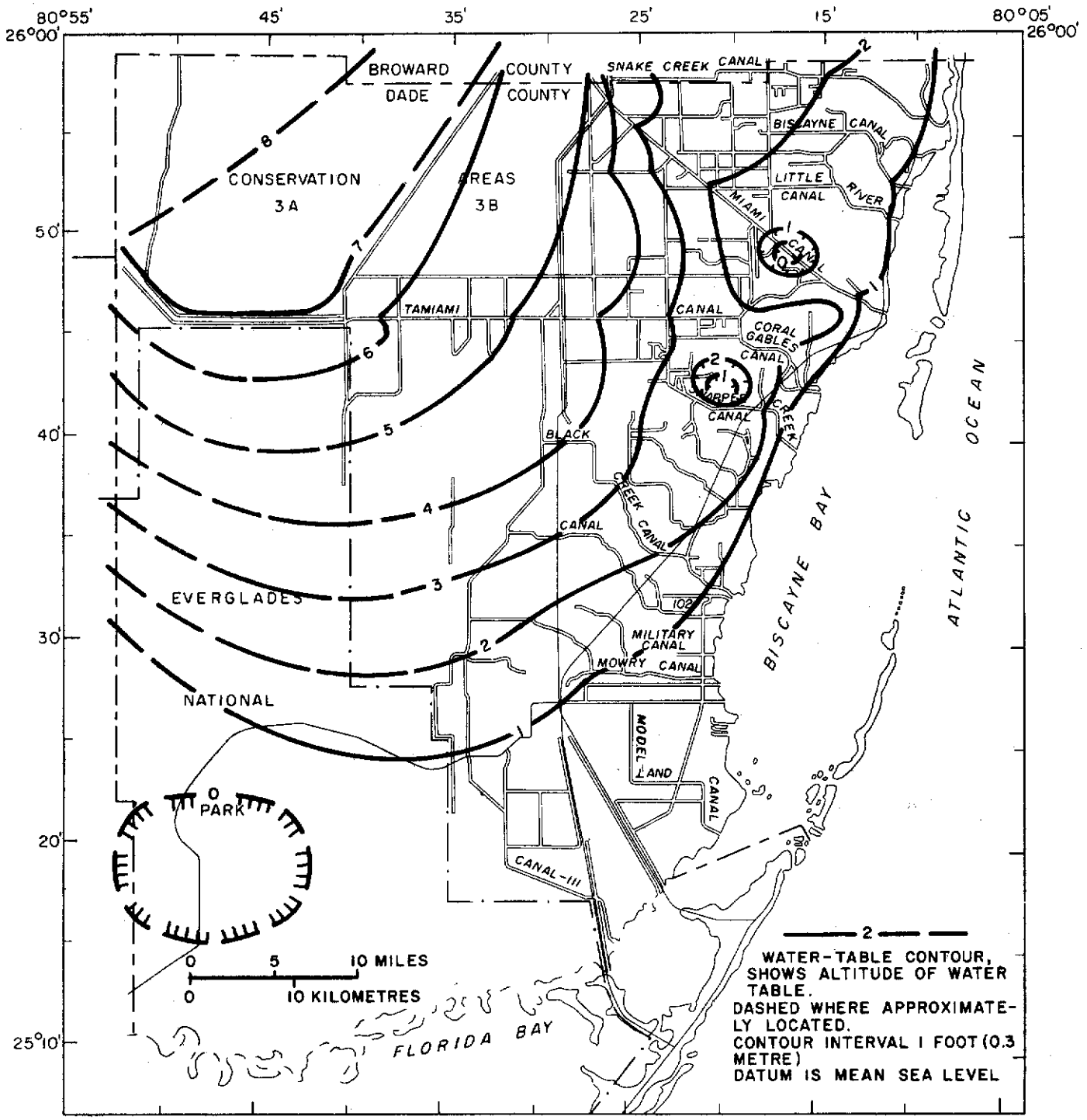

Figure 9.--Contours of average ground-water level for May, 1960-74.

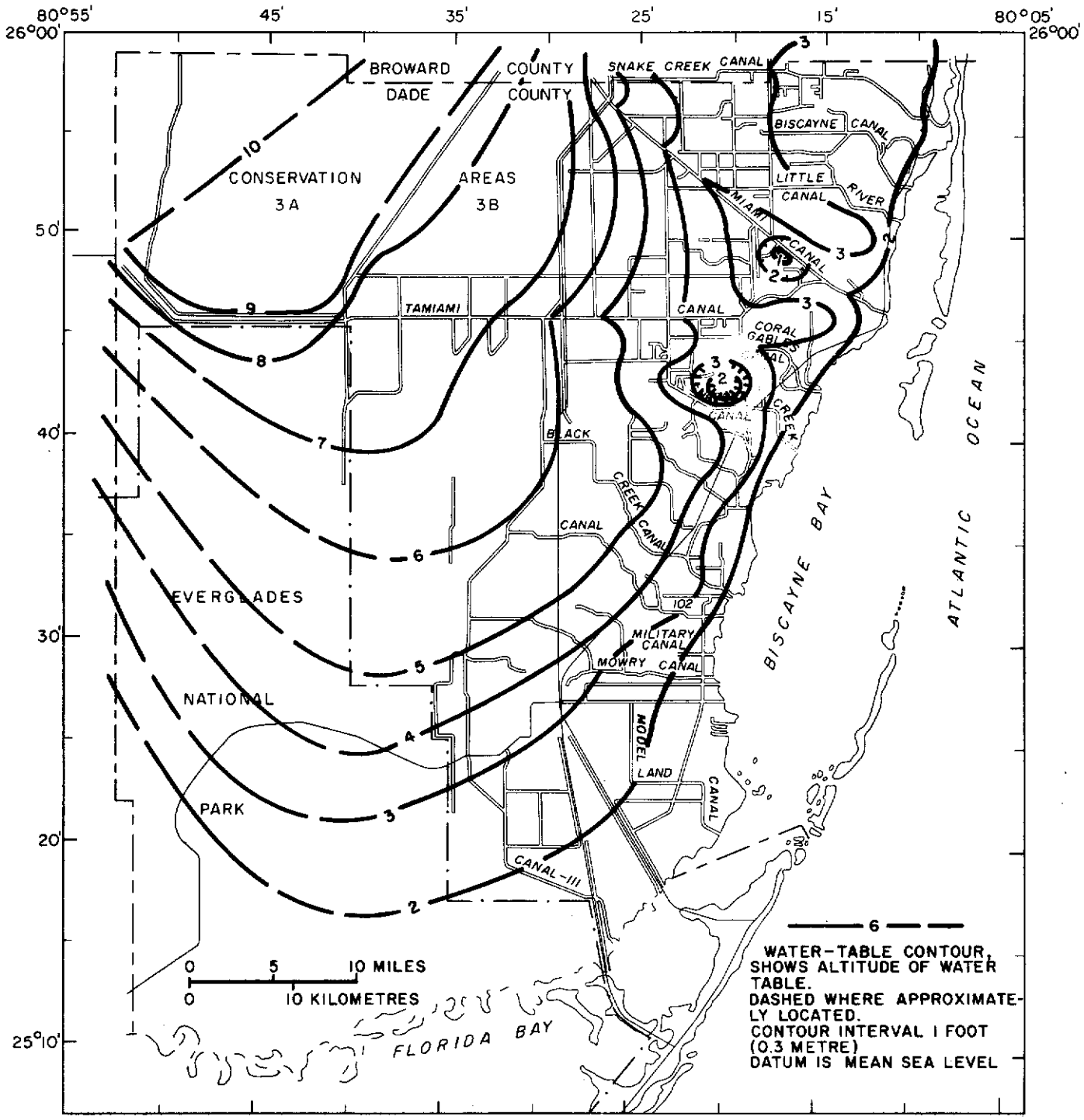

Figure 10.--Contours of average ground-water level for October, 1960-74.

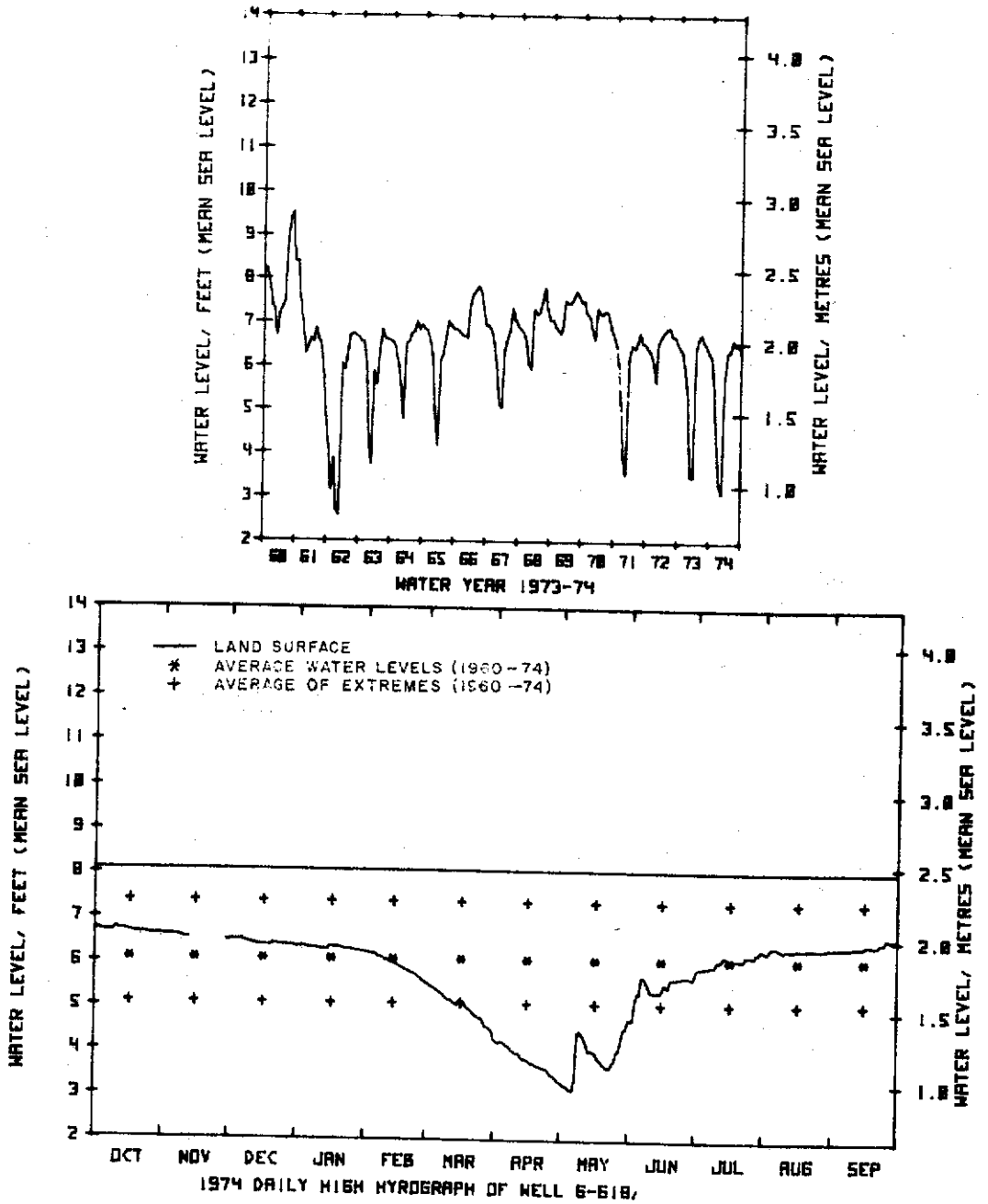

Figure 11. -- Well G-618 in northwest Dade County, 1974 water year and 1960-74 calendar years.

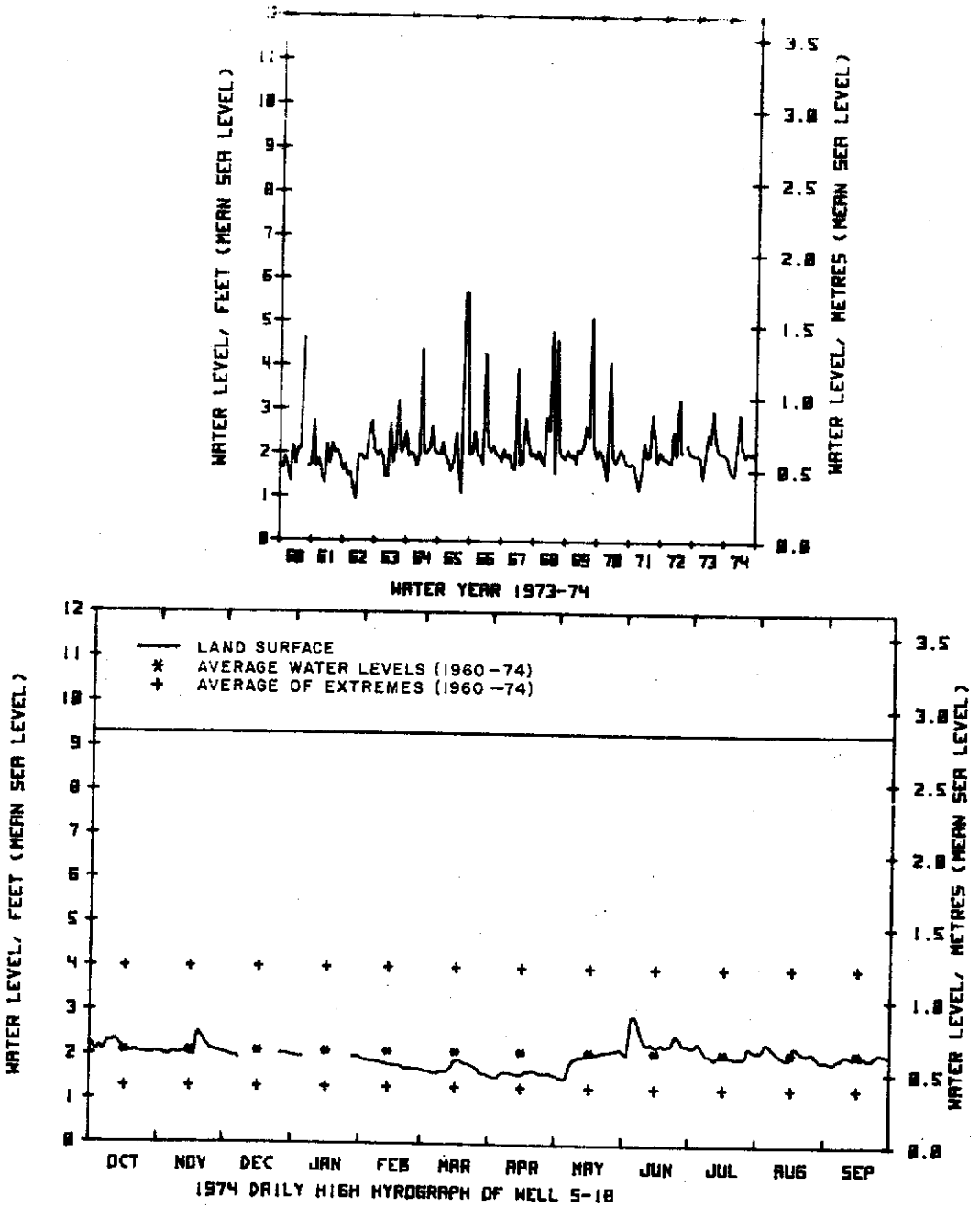

Figure 12. -- Well S-18 in northeastern Dade County, 1974 water year and 1960-74 calendar years.

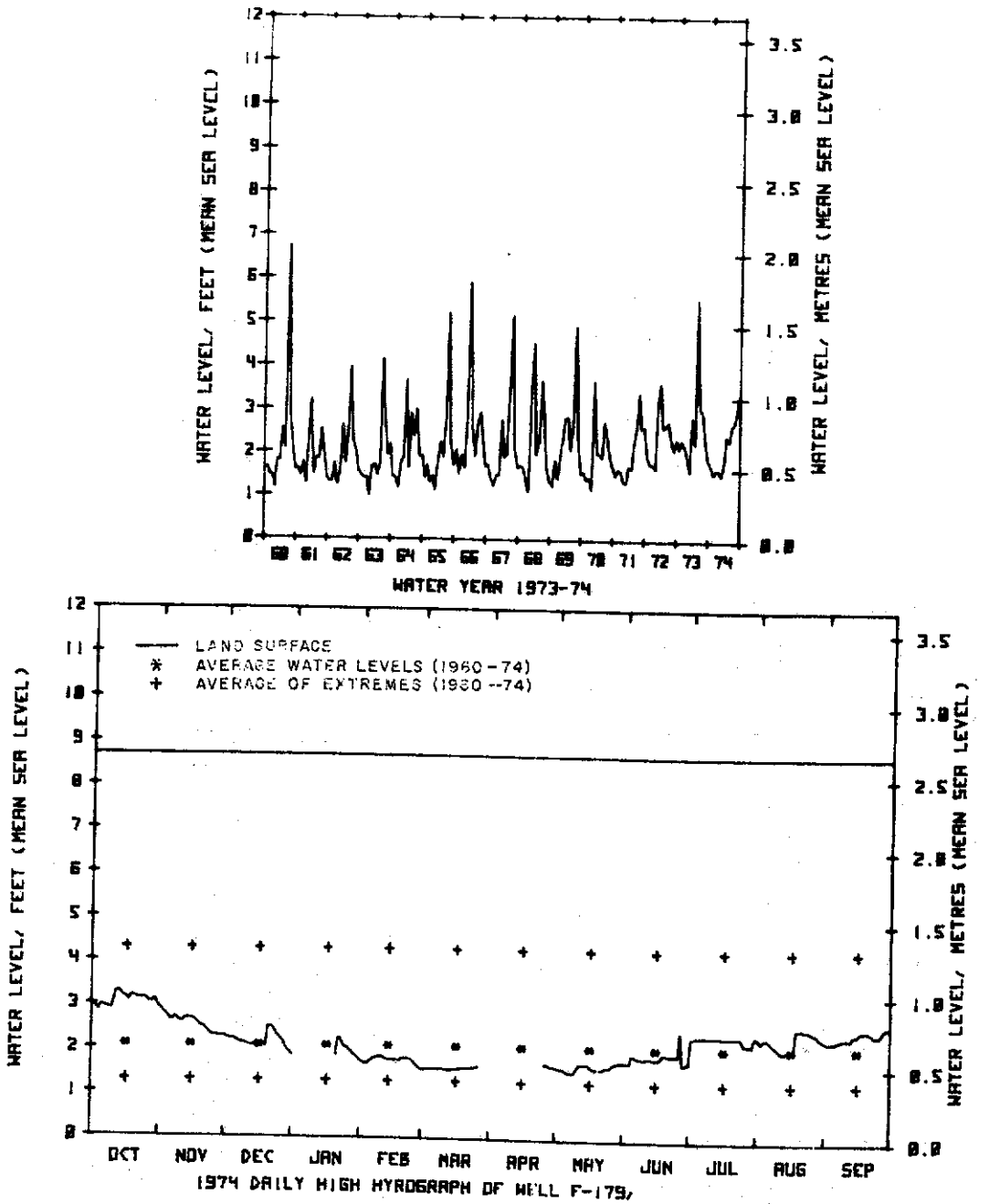

Figure 13. -- Well F-179 in northeastern Dade County, 1974 water year and 1960-74 calendar years.

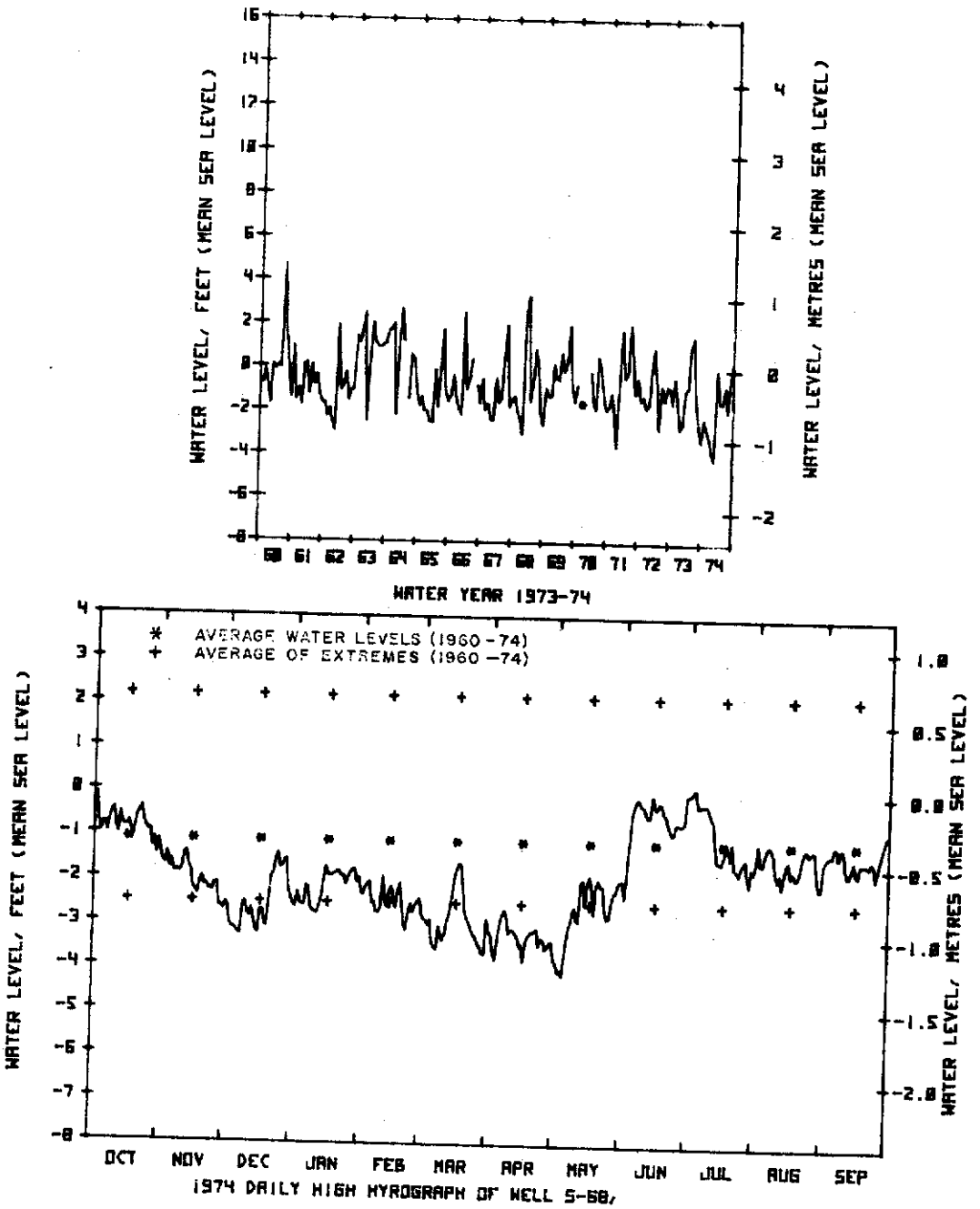

Figure 14. -- Well S-68 in northeastern Dade County, 1974 water year and 1960-74 calendar years.

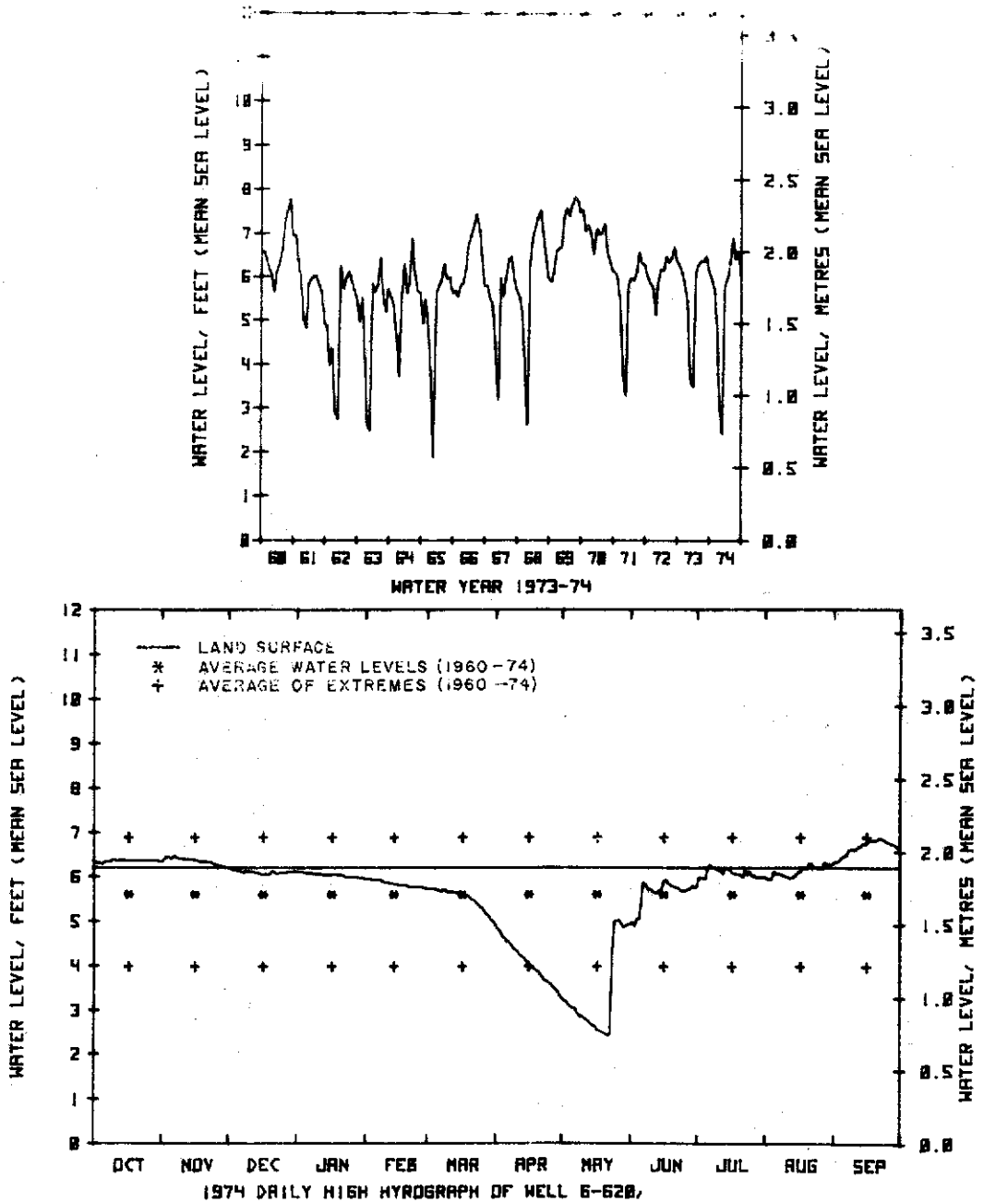

Figure 15. -- Well G-620 in west-central Dade County, 1974 water year and 1960-74 calendar years.

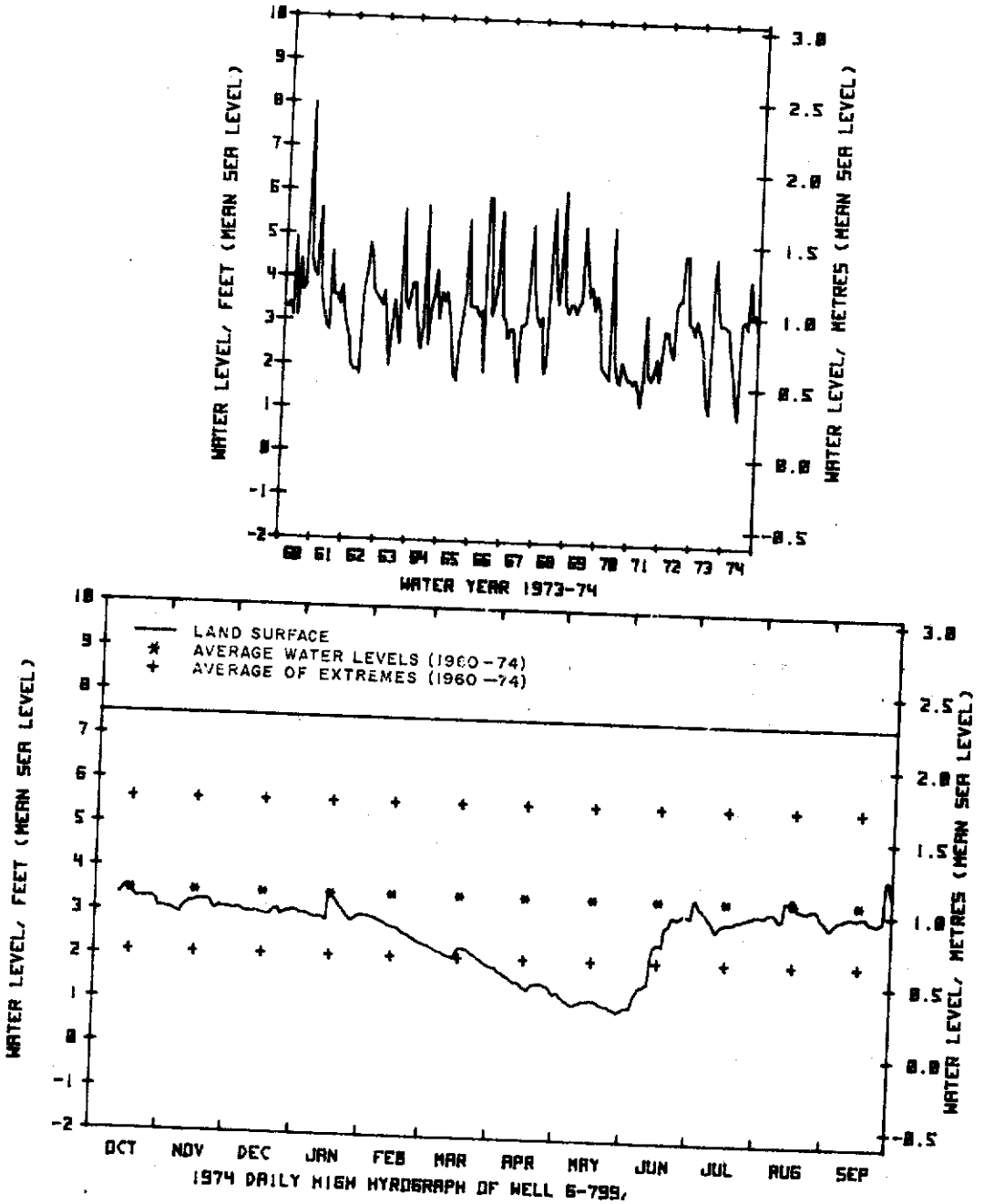

Figure 16. -- Well G-799 in central Dade County, 1974 water year and 1960-74 calendar years.

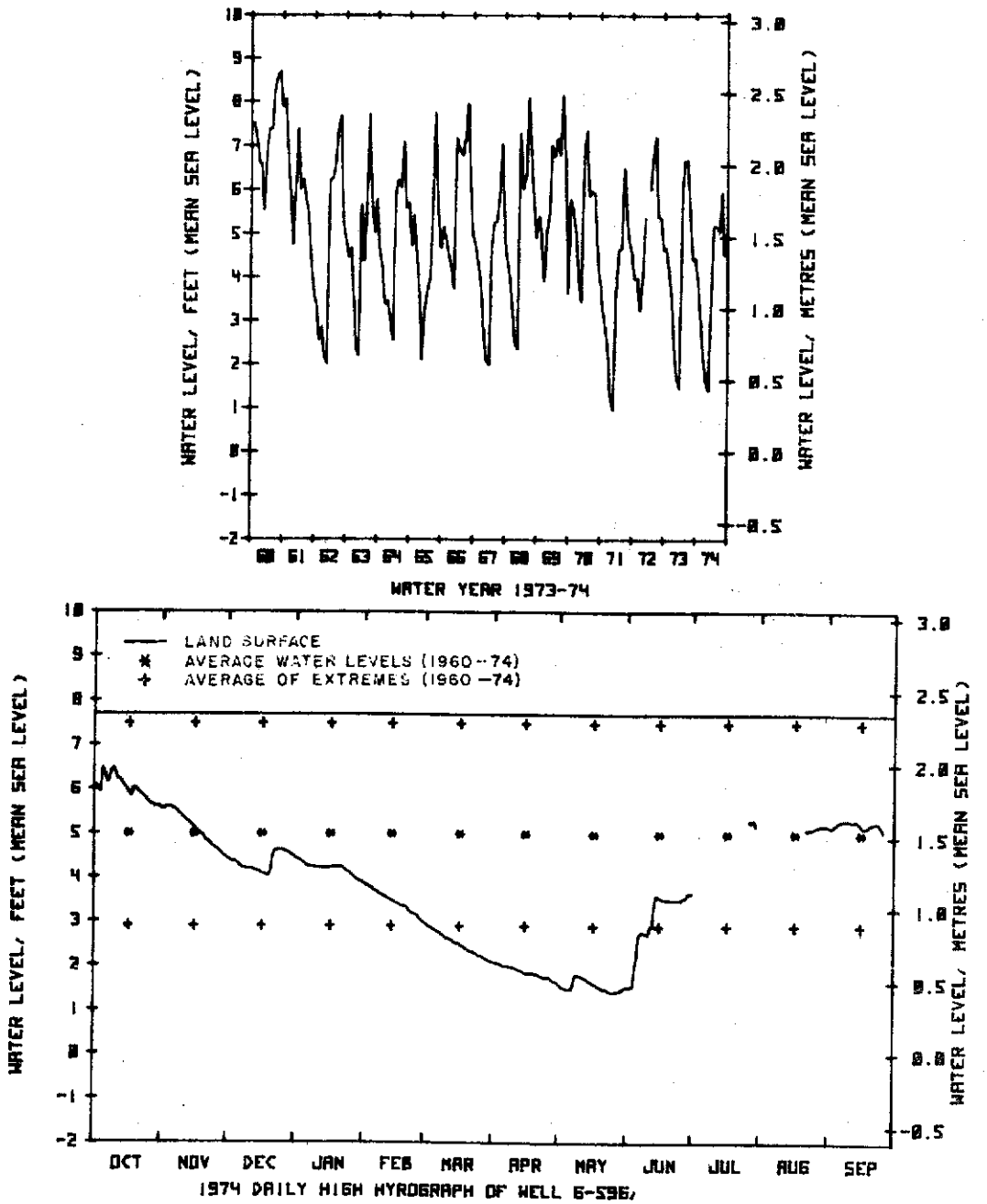

Figure 17. -- Well G-596 in central Dade County, 1974 water year and 1960-74 calendar years.

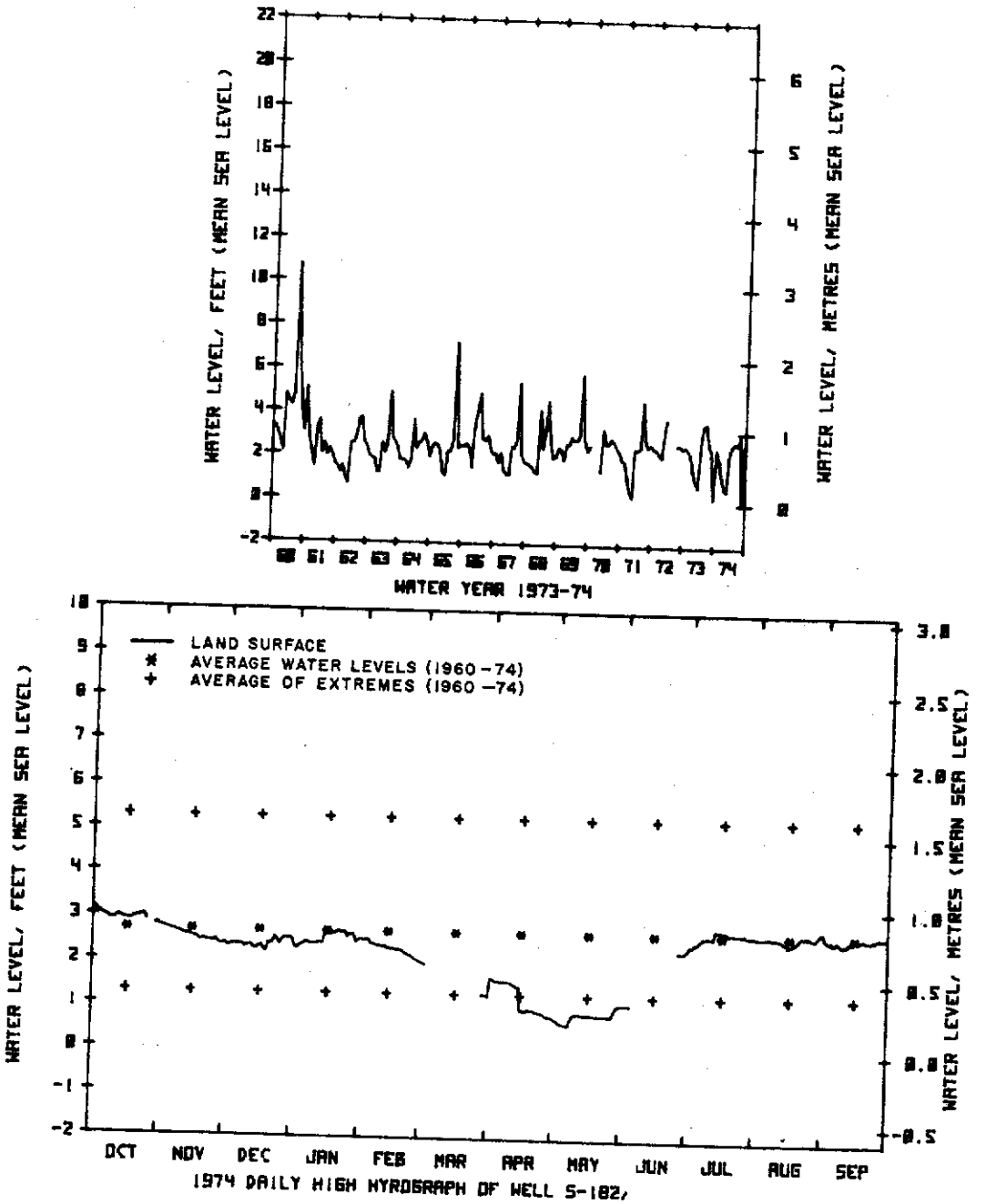

Figure 18. -- Well S-182 in east central Dade County, 1974 water year and 1960-74 calendar years.

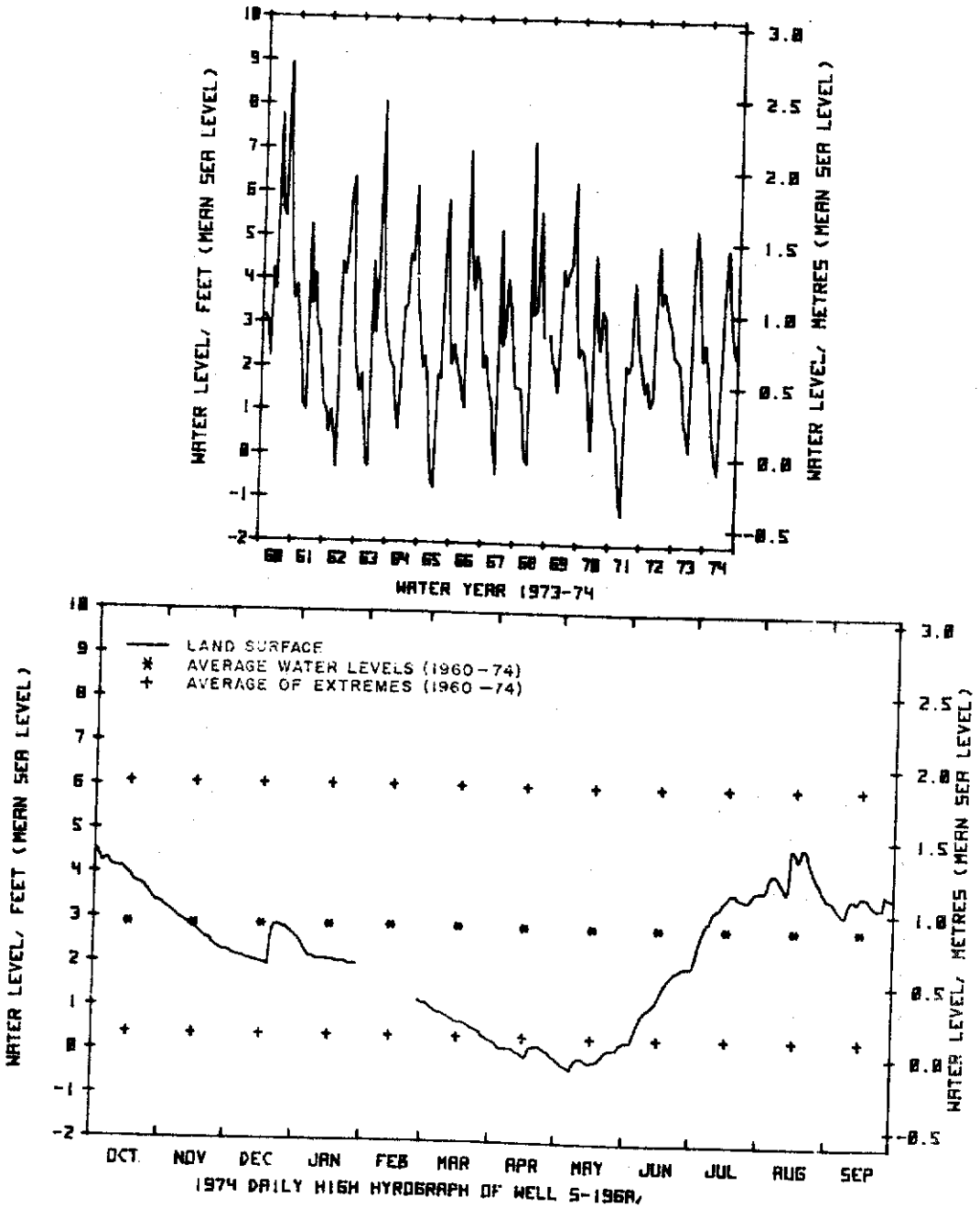

Figure 19. -- Well S-196 in south central Dade County, 1974 water year and 1960-74 calendar years.

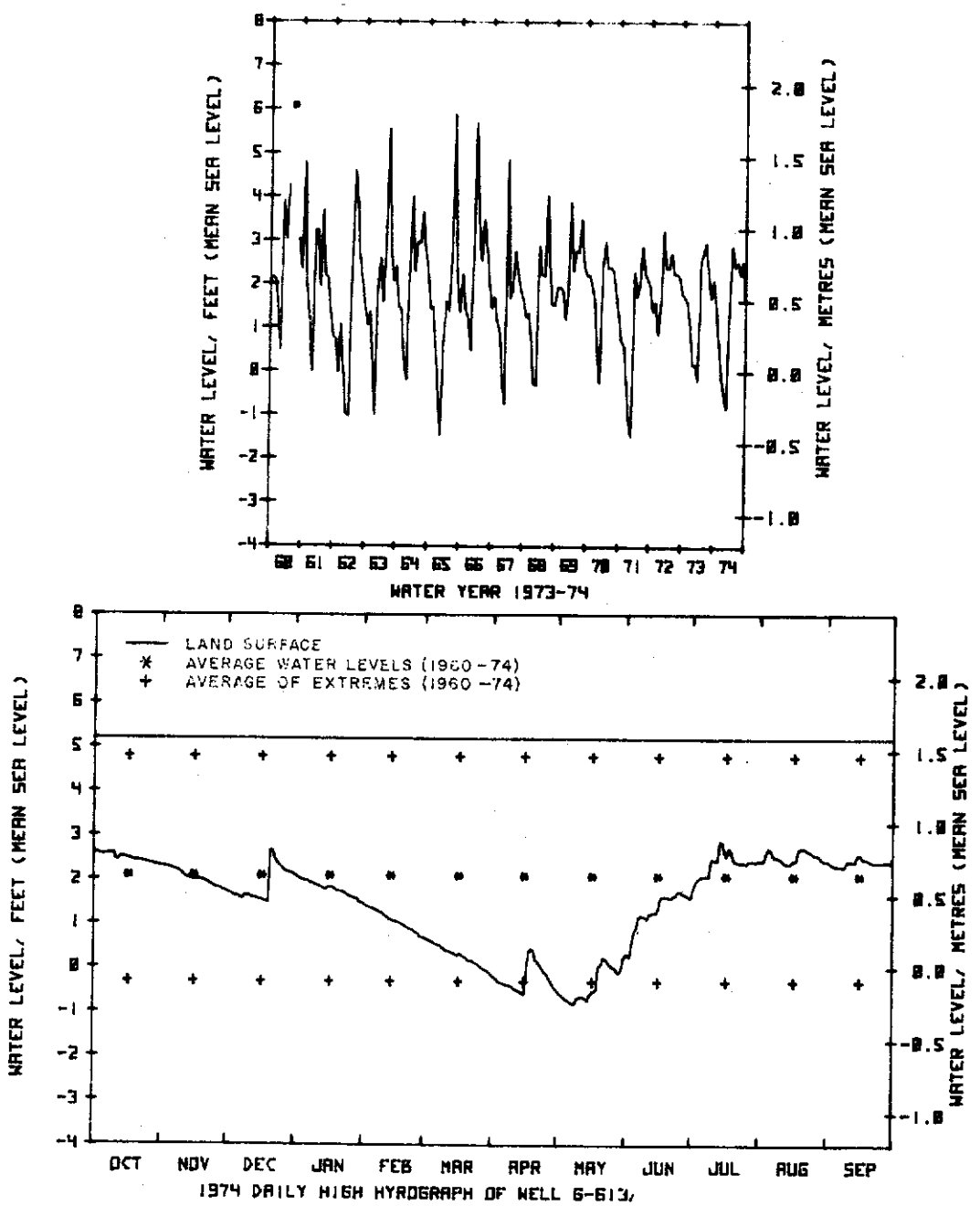

Figure 20. -- Well G-613 in southern Dade County, 1974 water year and 1960-73 calendar years.

Table 2.--Summary of water-level data from selected wells during 1974 water year, Dade County.

Well No.: Well number; G, government-owned; S, privately owned; F, fire well.
Location: General location in county; see figure 1 for locations.
Land Use: A, agriculture; E, everglades; U, urban; S, suburban.
Drainage: N, natural; C, canal; c, controlled; p, poor.
Range: Range of fluctuation during 1974 water year; feet, mean sea level.
Average: Average stage 1974 water year, feet, mean sea level.
Departure: Deviation from average level for period 1960-74.feet.

Well No.	Location	Land Use	Drainage	Range	Average	Departure	Figure No.
G-618	Northwest	E	C, c	6.7 to 3.1	6.0	-0.1	11
S-18	Northeast	U	C, c	2.9 to 1.5	2.1	0.0	12
F-179	Northeast	U	C, c	3.3 to 1.5	2.1	0.0	13
S-68	Northeast	U	C, c	0.2 to -4.1	-1.1	-0.4	14
G-620	West-central	E	N, p	6.8 to 2.4	5.6	-0.2	15
G-799	Central	S	C, c	4.1 to 0.9	3.5	-0.1	16
G-596	Central	A	C, c	6.5 to 1.4	5.0	-0.3	17
S-182	East-central	S	C, c	3.1 to 0.5	2.7	-0.1	18
S-196	Southeast	A	C, c	4.8 to -0.4	2.9	0.0	19
G-613	South	A	C, c	2.9 to -0.8	2.1	+0.1	20

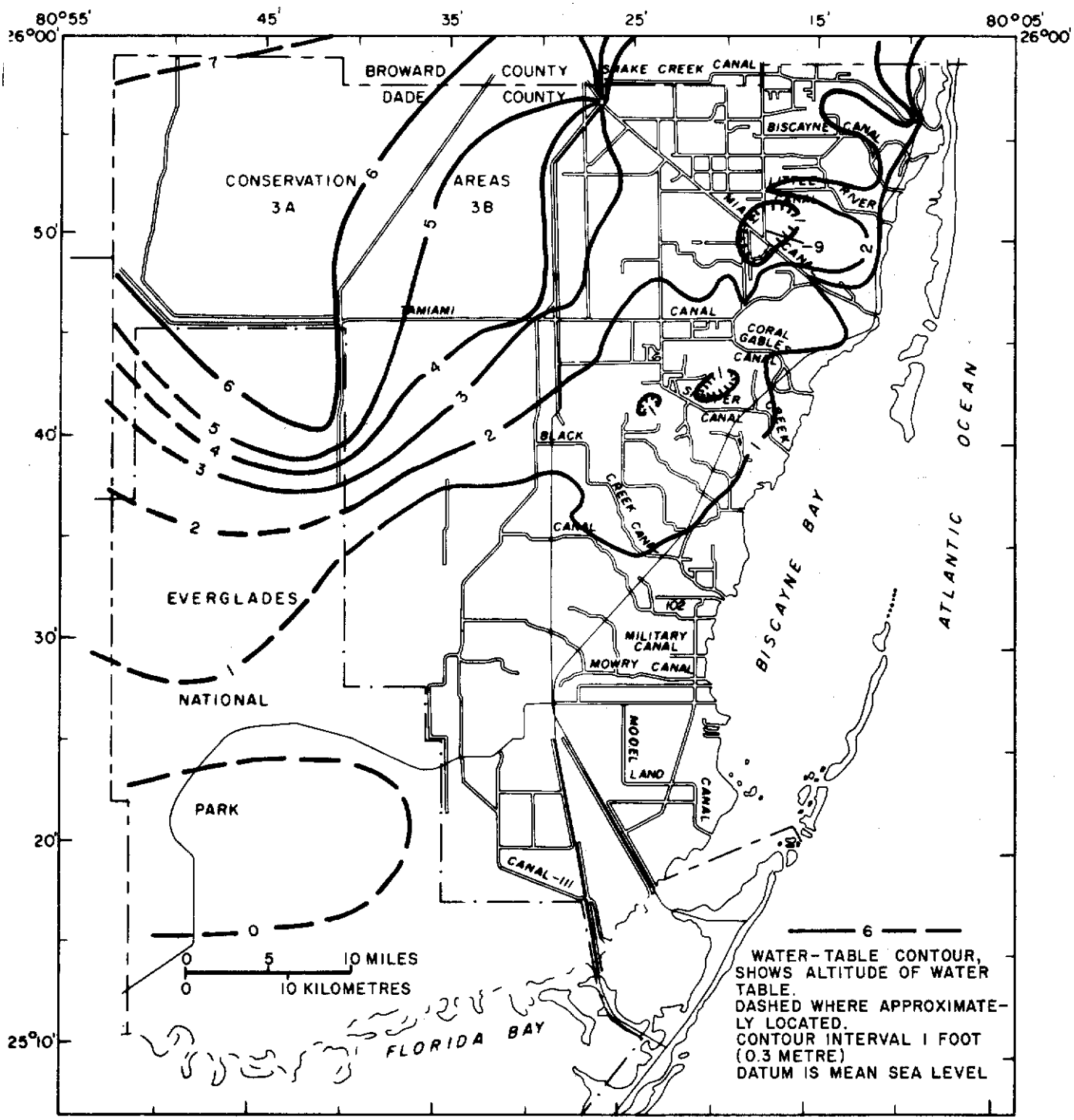

Figure 21. -- Contours of the water-level, end of May, 1974.

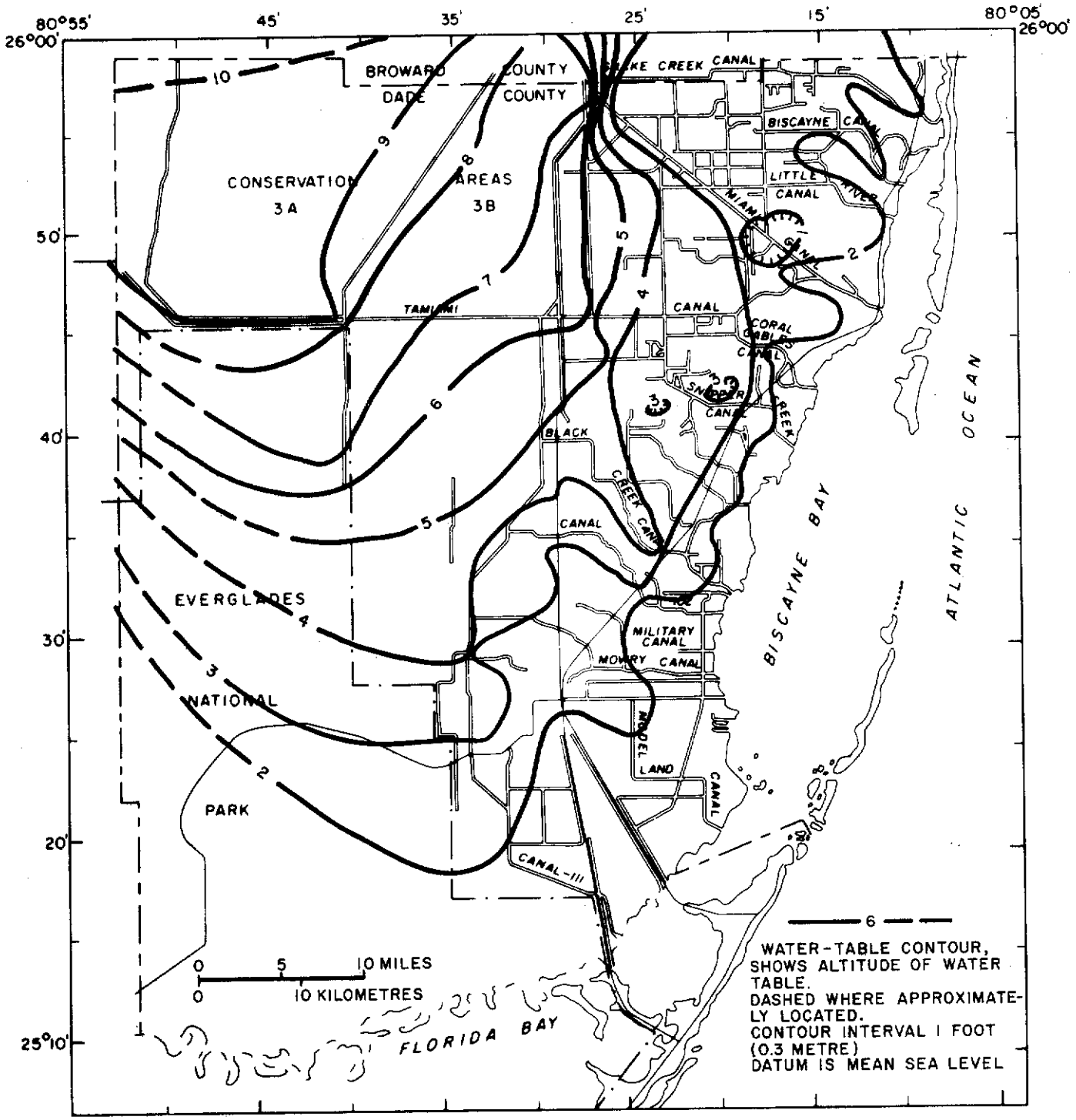

Figure 22. -- Contours of the water-level, end of October, 1974.

to sea level in the south part of the county, except in Miami's well fields where water levels were more than 9 feet below msl because of pumping. A comparison of the May 1974 levels and the average yearly lowest water-levels (fig. 8) shows that the May levels were more than 1 foot below the average yearly lowest in the west and was about .5 foot below in the south parts of the county.

The water levels at the end of October, 1974 ranged from 10 feet above msl in Conservation Area 3A to about 2 feet above msl along the coast (fig. 22). A comparison of the October water-levels with the average yearly highest (fig. 7) shows that the October water levels were about 1 foot below this average. Ground-water mounds were formed in the intercanal areas in northeast Dade County. Canals were discharging excess water through salinity control structures to the ocean.

The May and October maps of the Miami-Dade well fields in the Hialeah-Miami Springs and southwest Dade County areas are shown in figures 23 through 26. In the Southwest well-field area on May 6, 1974 ground-water levels near the centers of pumping (82 Mgal/d) ranged from 0.7 to 4.8 feet below msl, while the water level in the Snapper Creek Canal was about 1.5 feet above msl. The coastal salinity-control structure S-22 was closed and the canal was re-charging the well fields (fig. 23).

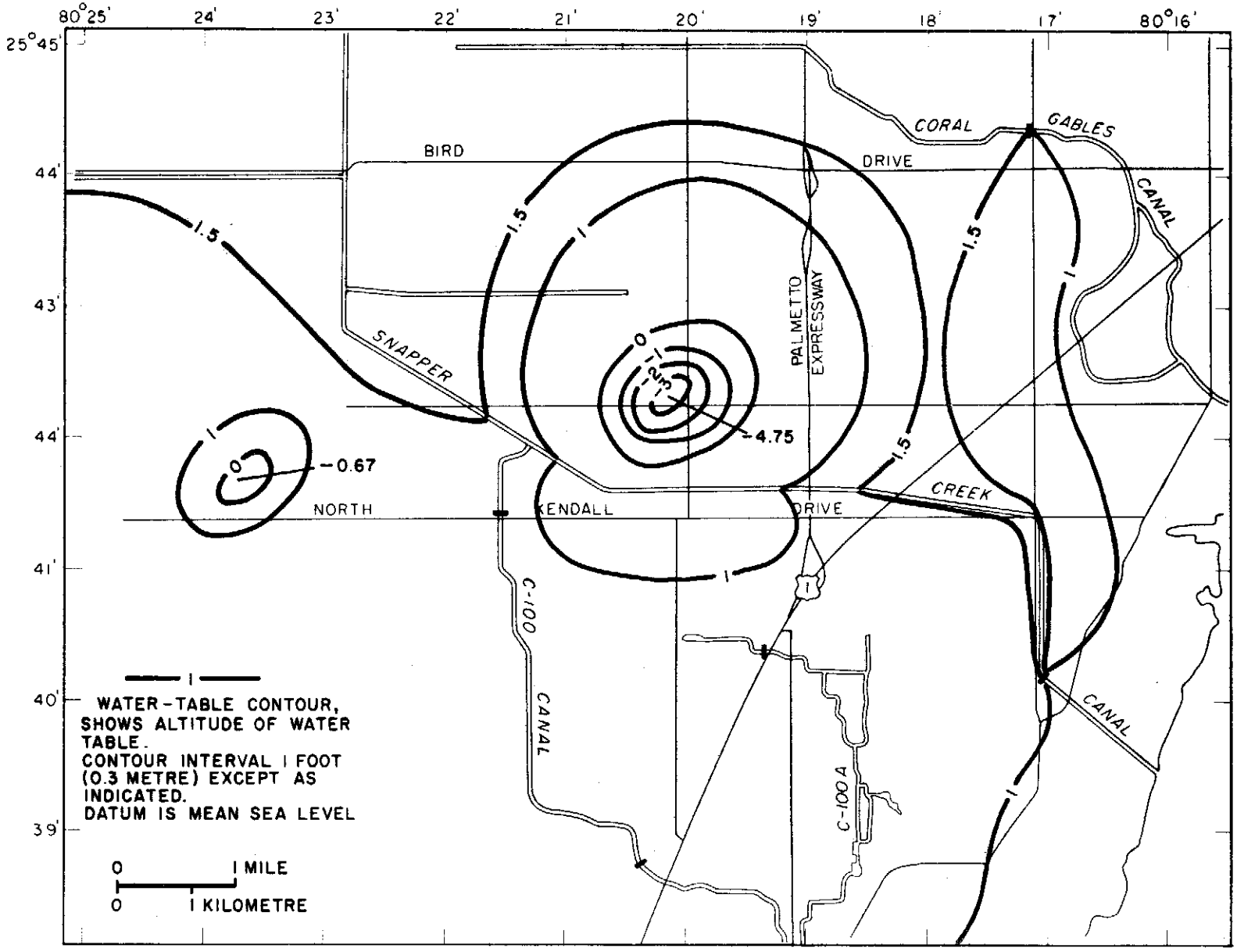

Figure 23. --Southwest well field area showing contours of the water level, May 6, 1974.

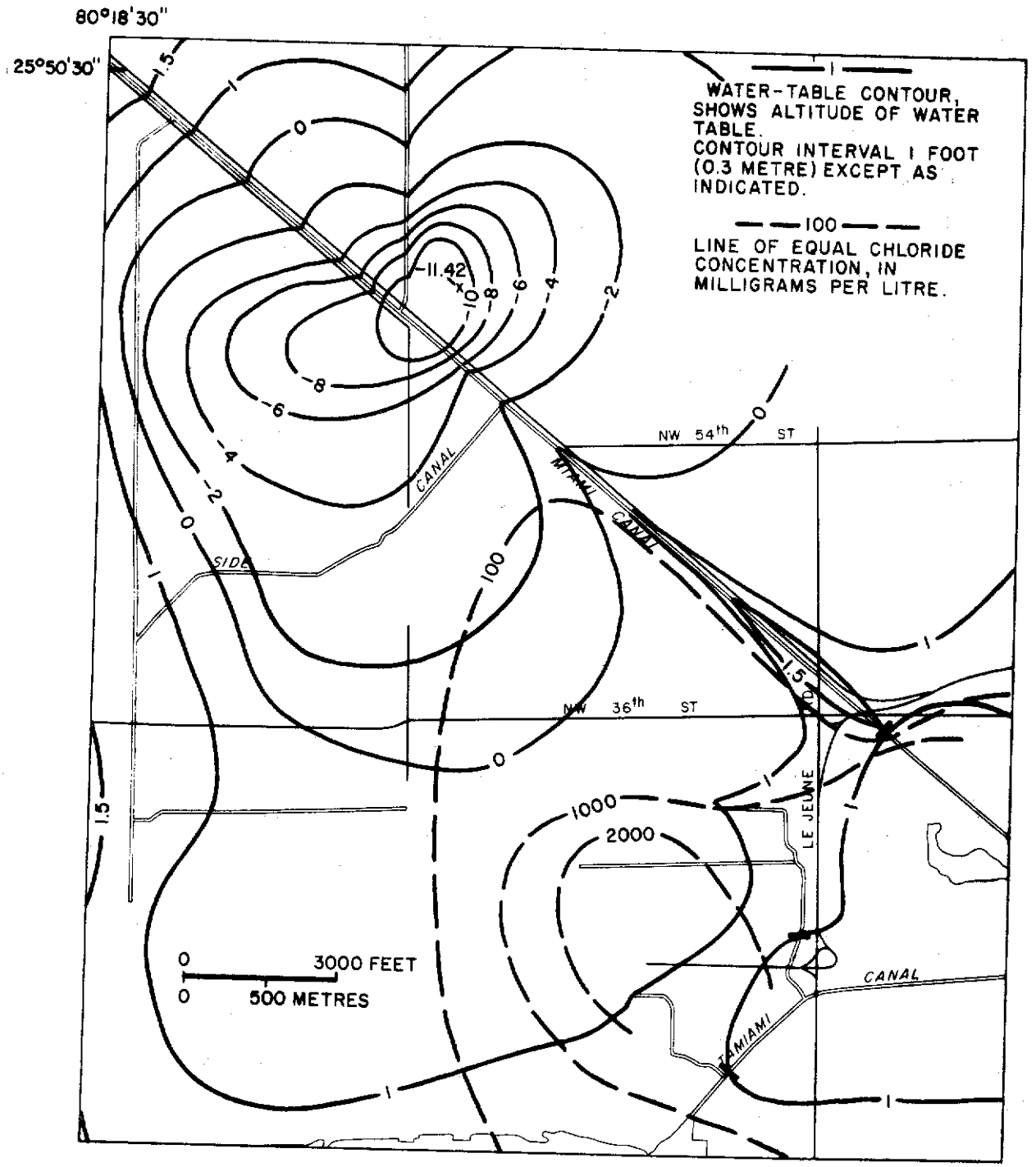

Figure 24. -- Hialeah-Miami Springs well field area showing contours of the water level and lines of equal chloride concentration, May 7, 1974.

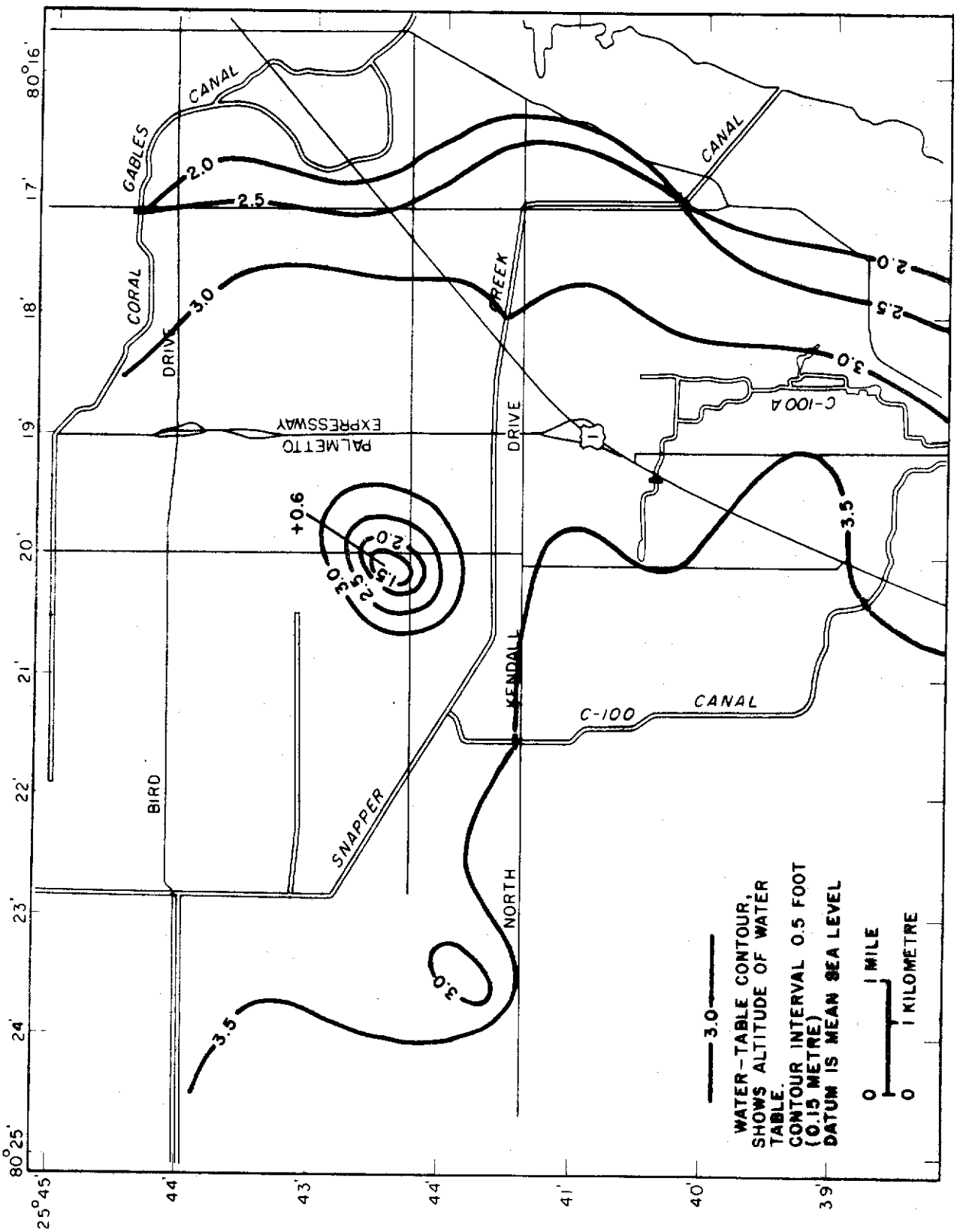

Figure 25. -- Southwest well field area showing contours of the water level, October 7, 1974

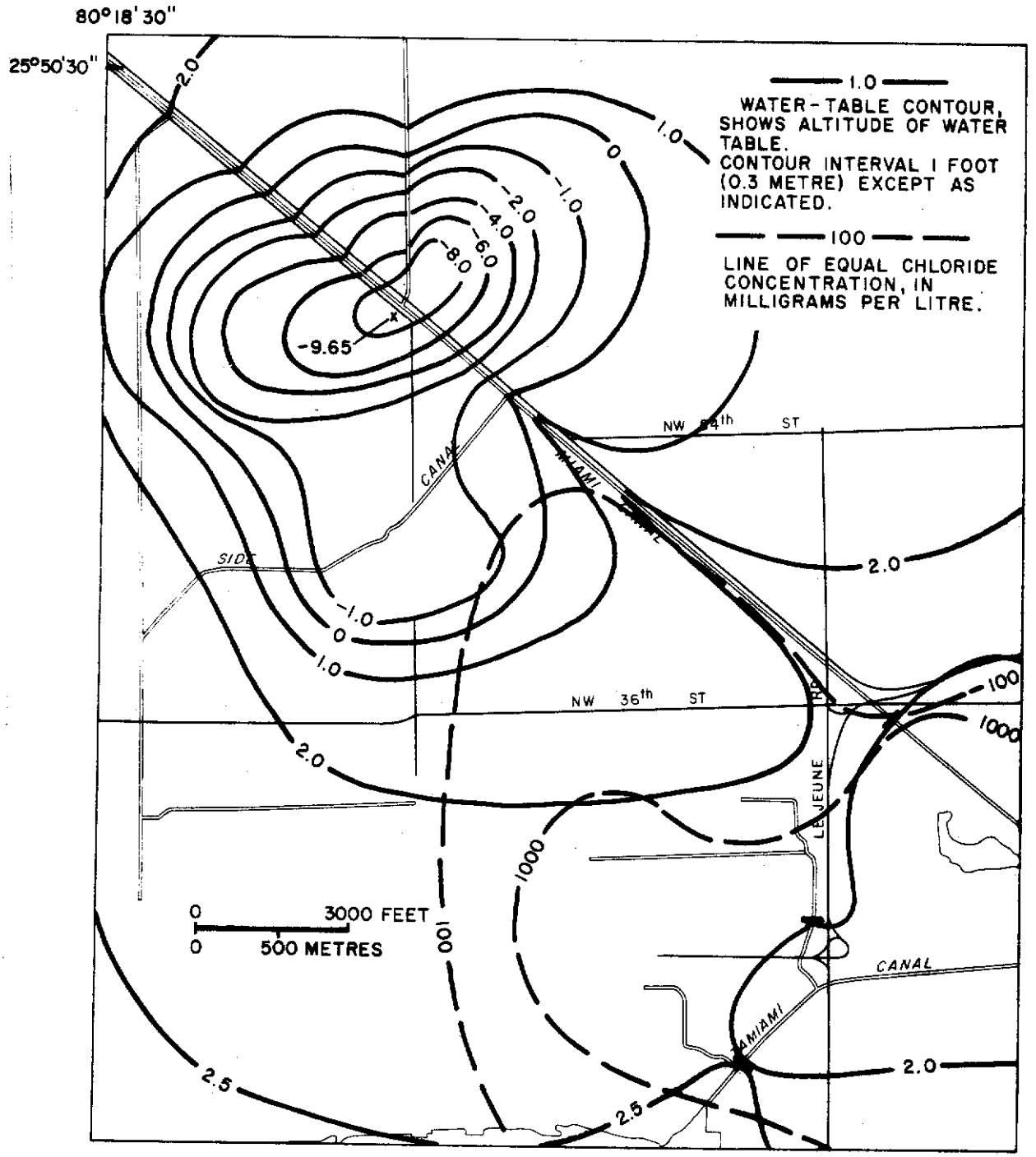

Figure 26.--Hialeah-Miami Springs well field area showing contours of the water level and lines of equal chloride concentration, October 8, 1974.

In the Hialeah-Miami Springs area on May 7, 1974, groundwater levels near the centers of the heaviest (109 Mgal/d) pumping ranged from 2.0 to 11.4 feet below msl while water levels in the nearby canals were about 1.5 feet above msl. The 36th Street salinity control structure on the Miami Canal was closed (fig. 24).

In the Southwest well field area on October 7, 1974, groundwater levels near the centers of pumping (70 Mgal/d) ranged from 0.6 foot to 3.0 feet above msl, while the water level in the Snapper Creek ranged from 3.4 to 3.0 feet above msl. The coastal salinity-control structure (S-22) was partially open and the canal was recharging the well fields (fig. 25).

In the Hialeah-Miami Springs area on October 8, 1974, groundwater levels near the centers of the heaviest pumping (110 Mgal/d) ranged from 1.0 to 9.7 feet below msl while water levels in the nearby canals ranged from 2.0 to 2.5 feet above msl. The 36th Street salinity control structure on the Miami Canal was partially open (fig. 26).

Water Use

Ground water in Dade County is used chiefly for municipal, industrial, domestic, and agricultural purposes. The total yearly pumpage from Miami's well fields increased from about 8.5 billion gallons in 1940 to more than 67 billion gallons in 1974 (fig. 27). The average daily and peak-day pumpage for each year beginning in 1930 increased almost uniformly through 1952 (fig. 28). The greater rates of increase since 1952 and 1965 (not obvious in fig. 28 because of the logarithmic scale) reflect changes in water use and shifts in population density.

In 1974 -- as for earlier years -- the demand for water was highest during months of low rainfall (fig. 29).

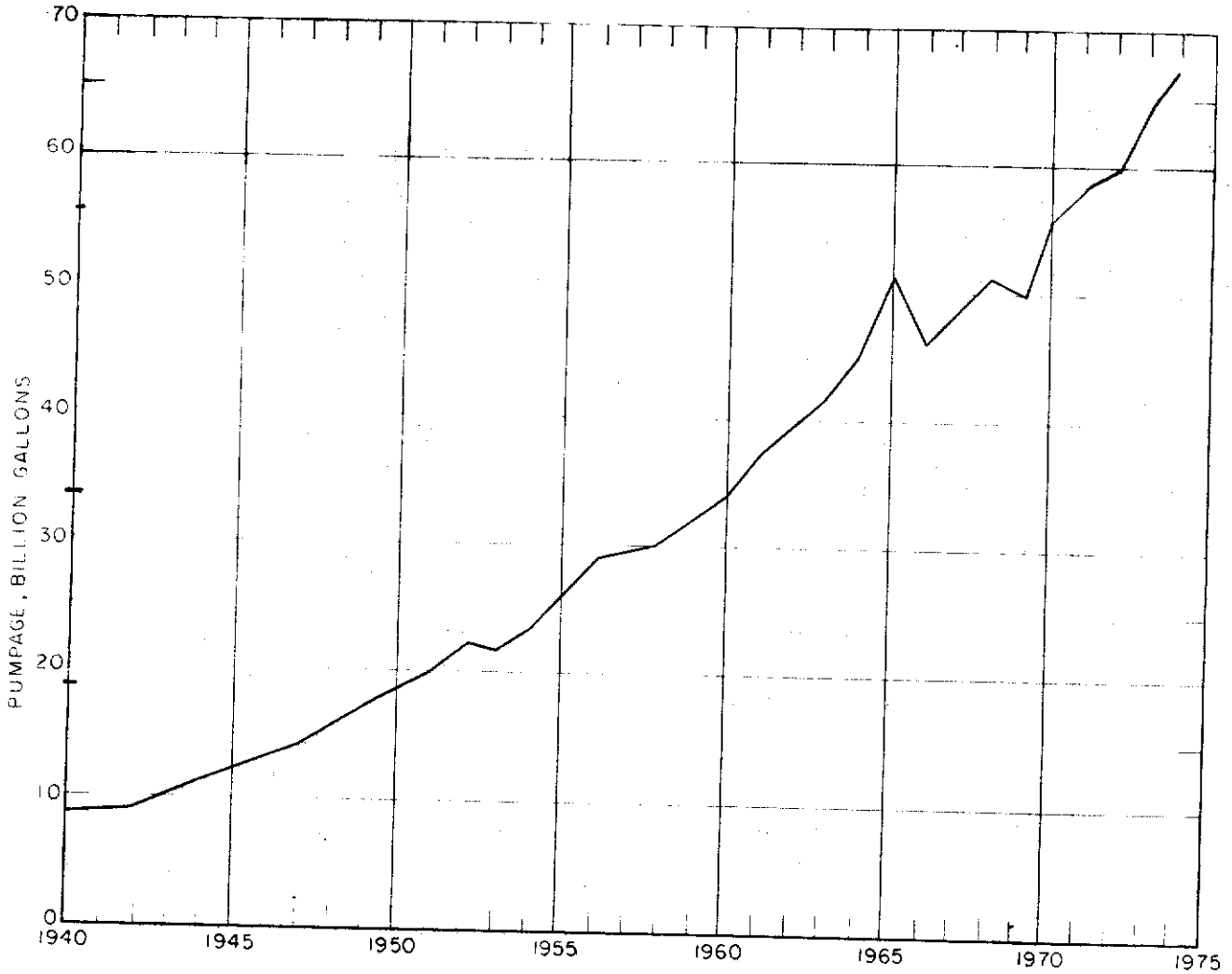

Figure 27. -- Yearly pumpage from the Miami-Dade wells, 1940-74.

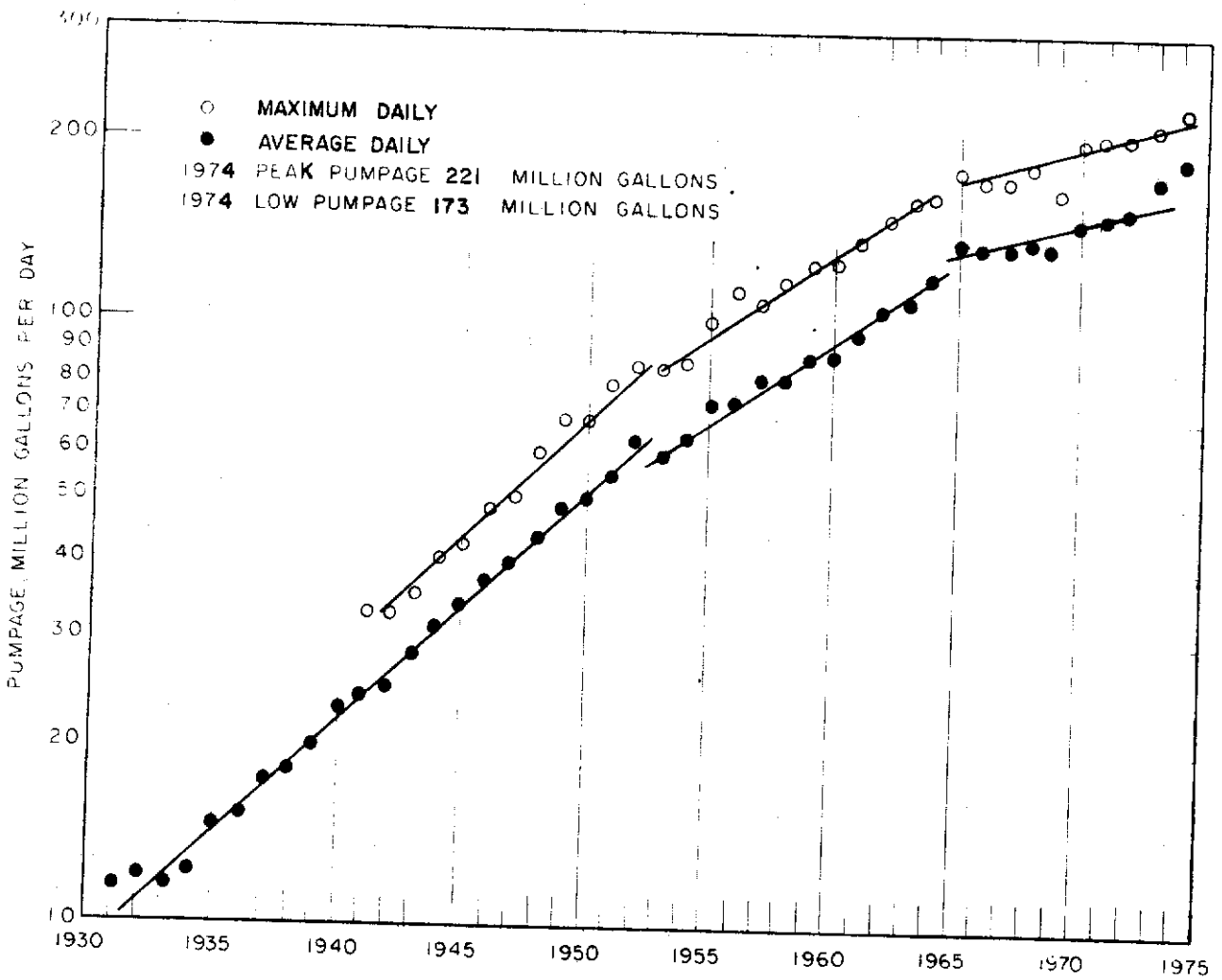

Figure 28. -- Average and maximum daily pumpage from the Miami-Dade well fields, 1930-74.

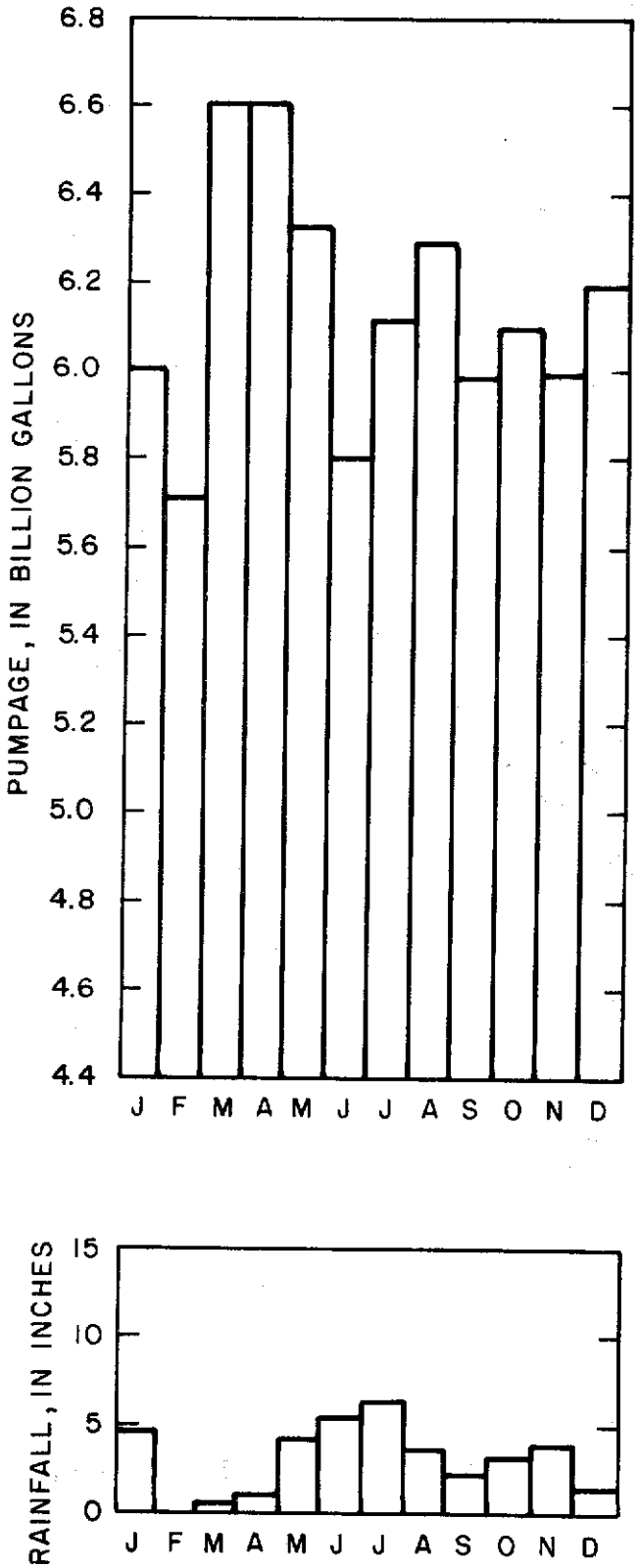

Figure 29. -- Monthly pumpage at Miami-Dade well fields and monthly rainfall at Hialeah, 1974 calendar year.

SURFACE WATER

During the 1974 water year the U. S. Geological Survey maintained 42 surface-water gaging stations within Dade County to determine water levels and runoff -- for locations see fig. 2. Eight of these stations were located in coastal control structures, 5 were in Biscayne Bay and 29 were at inland locations. Deflection meters continued to be the most effective means of obtaining continuous discharge records. They were used at all but seven of the sixteen locations where daily discharge was determined. At five of the seven--Taylor Slough, Tamiami Canal at Coral Gables, and three Tamiami Canal outlet stations--discharge was related to stage and was adjusted for periodic shifts in control conditions. At the remaining two, Black Creek above S-21 and Mowry Canal near Homestead, discharge was related to gate head.

Records of Discharge

During the 1974 water year, records of daily discharge (summary in table 3) were obtained at 17 different locations on ten canals and streams within the county. Discharge hydrographs for 12 of the 17 are shown in figures 30-35.

The combined annual discharge of Snake Creek, Biscayne, Little River, Miami, Tamiami, Snapper Creek, Black Creek and Mowry Canals represents an estimated 85 percent of the total eastward runoff from all Dade County canals. During the water year the combined average daily discharge of these eight canals was 890 ft^3/s or 558 Mgal/d. Their total discharge during the 1974 water year was 642,820 acre-feet.

The remaining gaging sites are Taylor Slough and Canal 111 in south Dade County. (See location, fig. 2.) The average daily discharge of Taylor Slough for the 1974 water year was 12.2 ft^3/s, 8.8 ft^3/s less than 1973.

The average daily discharge of Canal 111 was 11.5 ft^3/s, 24.3 ft^3/s less than 1973. Maximum discharge during the water year was 50 ft^3/s on October 9, 1973 and August 23, 1974.

Tamiami Canal outlets, levee 67A to 40-mile bend had the greatest discharge (428,400 acre-feet), and Canal 111 at S-18C had the least (8,310 acre-feet) of the 10 canals and streams.

All canals discharged less than the average for the period of record except the Tamiami Canal Outlets from Levee 67A to 40-mile bend in which the maximum daily discharge was 3,860 ft^3/s on September 7-11. At several gaging stations zero flow occurred, for as long as 235 days at Taylor Slough near Homestead. At Miami Canal at the Palmetto Bypass minimum flow was 14 ft^3/s on March 25.

Table 3. --Summary of discharge data for gaging stations for the 1974 water year and period of record.

Gaging Stations	Max. daily (ft^3/s)	Min. daily (ft^3/s)	Number of days of zero flow	Mean (ft^3/s)	Total (ac-ft)	Average for period of record (ft^3/s)
Snake Creek Canal at N. W. 67th Avenue	691	49	0	239	173,100	319
Snake Creek Canal at S-29	1,110	0	146	213	154,600	391
Tamiami Canal outlets, 40-mile bend to Monroe	870	0	78	150	108,600	273
Tamiami Canal outlets, levee 67A to 40-mi. Bend	3,860	20	0	592	428,400	370
Tamiami Canal outlets, levee 30 to levee 67A	152	0	146	28.3	20,480	252
Tamiami Canal near Coral Gables	226	0	32	79.1	57,290	135
Miami Canal, East of levee 30	725	112	0	247	178,600	272
Miami Canal at Palmetto Bypass	498	14	0	193	140,100	294
Miami Canal at N. W. 36th St.	447	0	83	136	98,470	312
Snapper Creek Canal at Miller Dr. near So. Miami	430	35	0	119	86,070	173
Snapper Creek Canal at S-22	601	0	232	94.4	68,370	232
Taylor Slough near Homestead	102	0	235	12.2	8,800	39.2
Biscayne Canal at S-28	843	0	202	61	44,190	115
Canal 111 at S-18C	50	0	206	11.5	8,310	91.2
Black Creek above S-21	419	0	214	58	42,000	-
Mowry Canal nr. Homestead	656	0	189	106	76,400	-
Little River at S-27	492	0	52	140	101,500	168

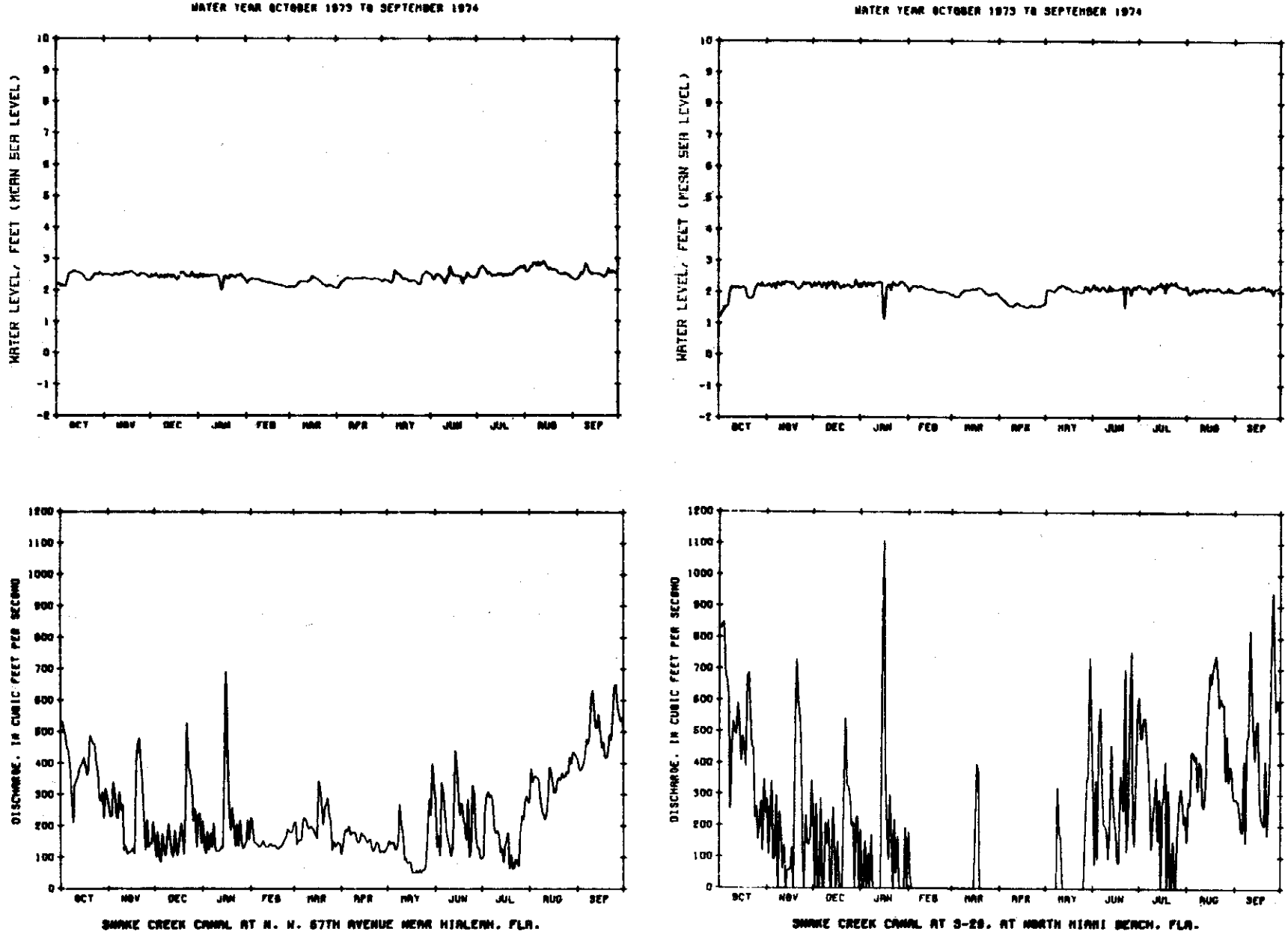

Figure 30. -- Discharge and stage for Snake Creek Canal, 1974 water year.

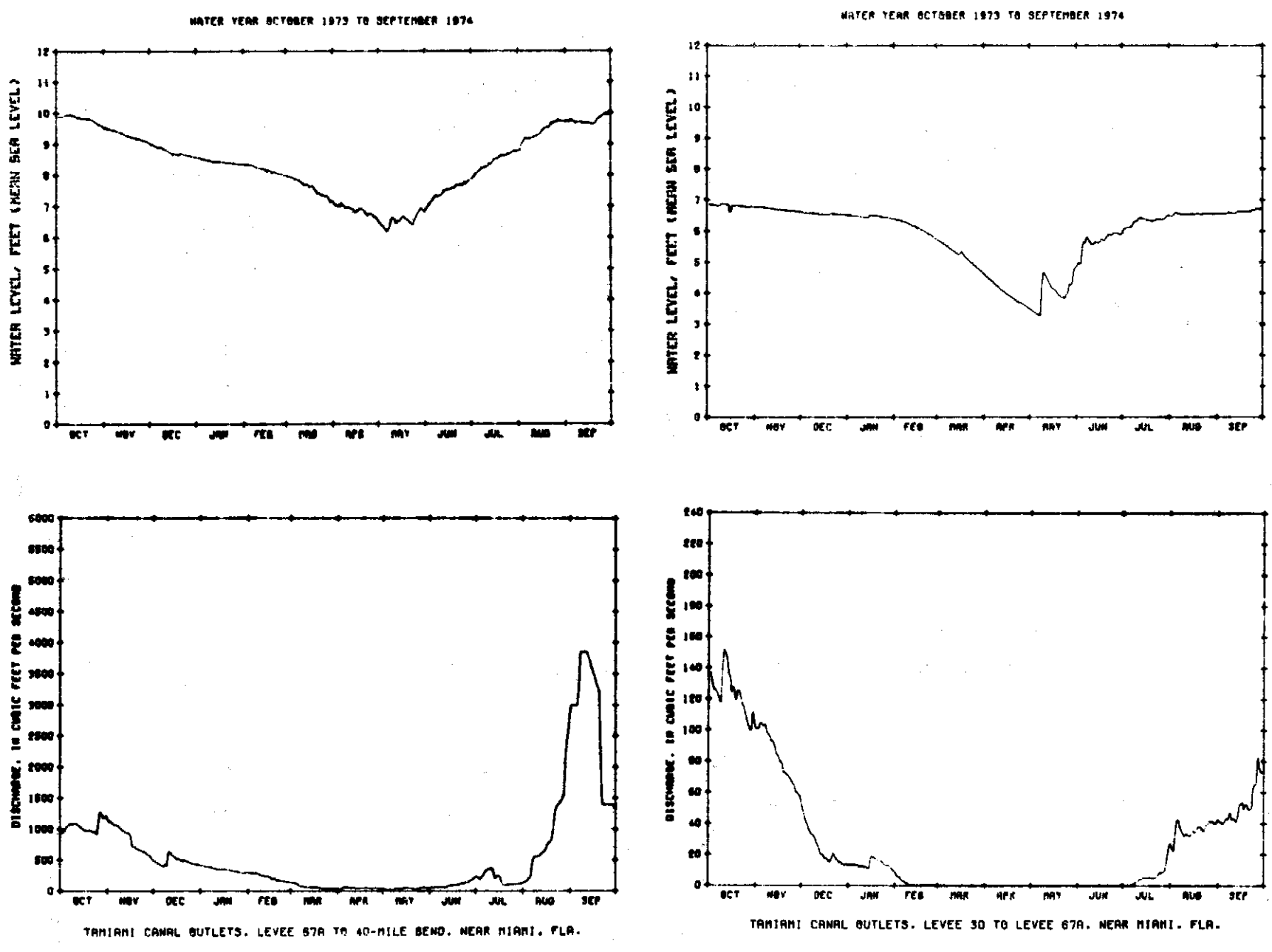

Figure 31. -- Discharge and stage for Tamiami Canal outlets, 1974 water year.

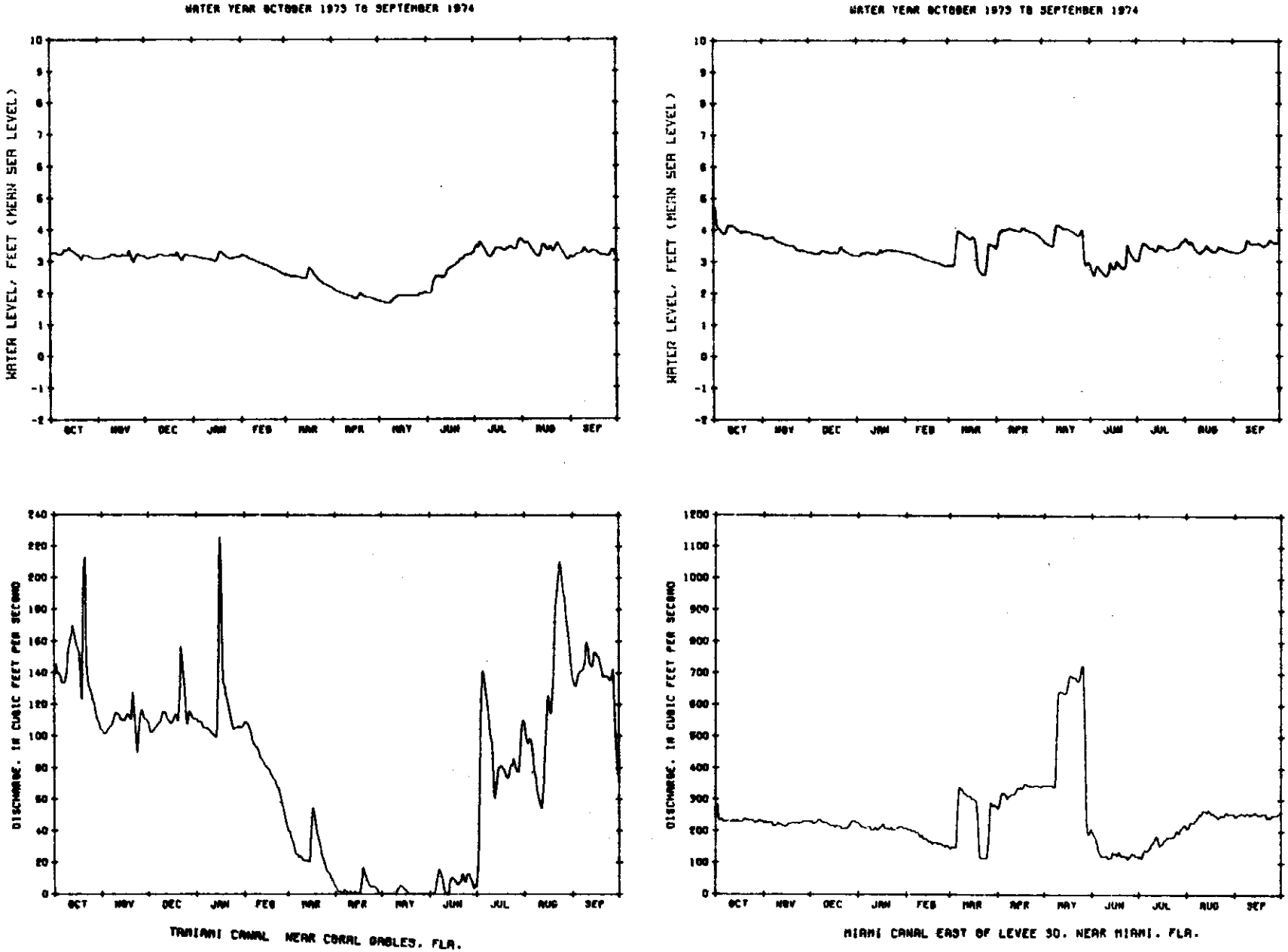

Figure 32. -- Discharge and stage for Tamiami and Miami Canals, 1974 water year.

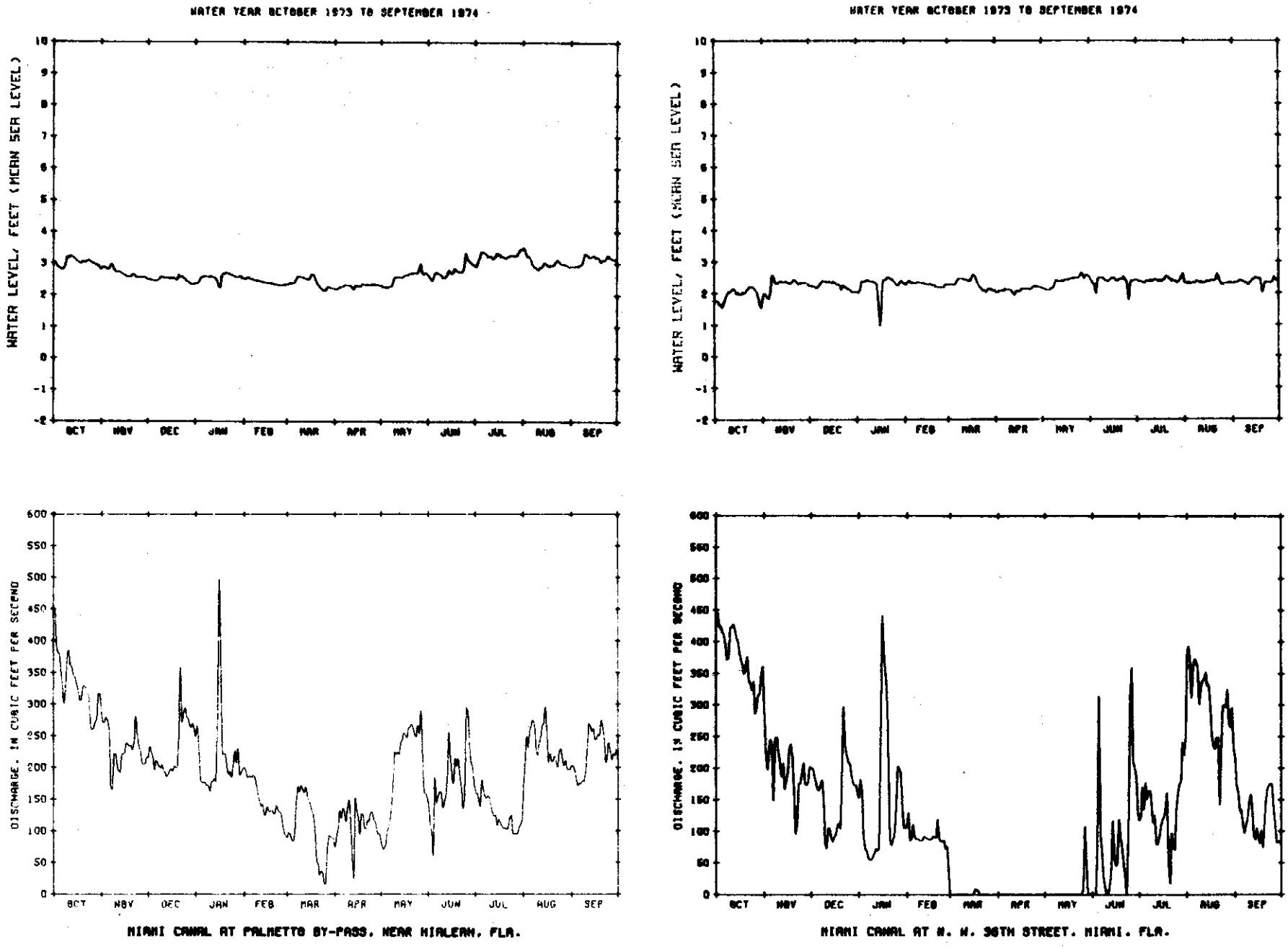

Figure 33. -- Discharge and stage for Miami Canal, 1974 water year.

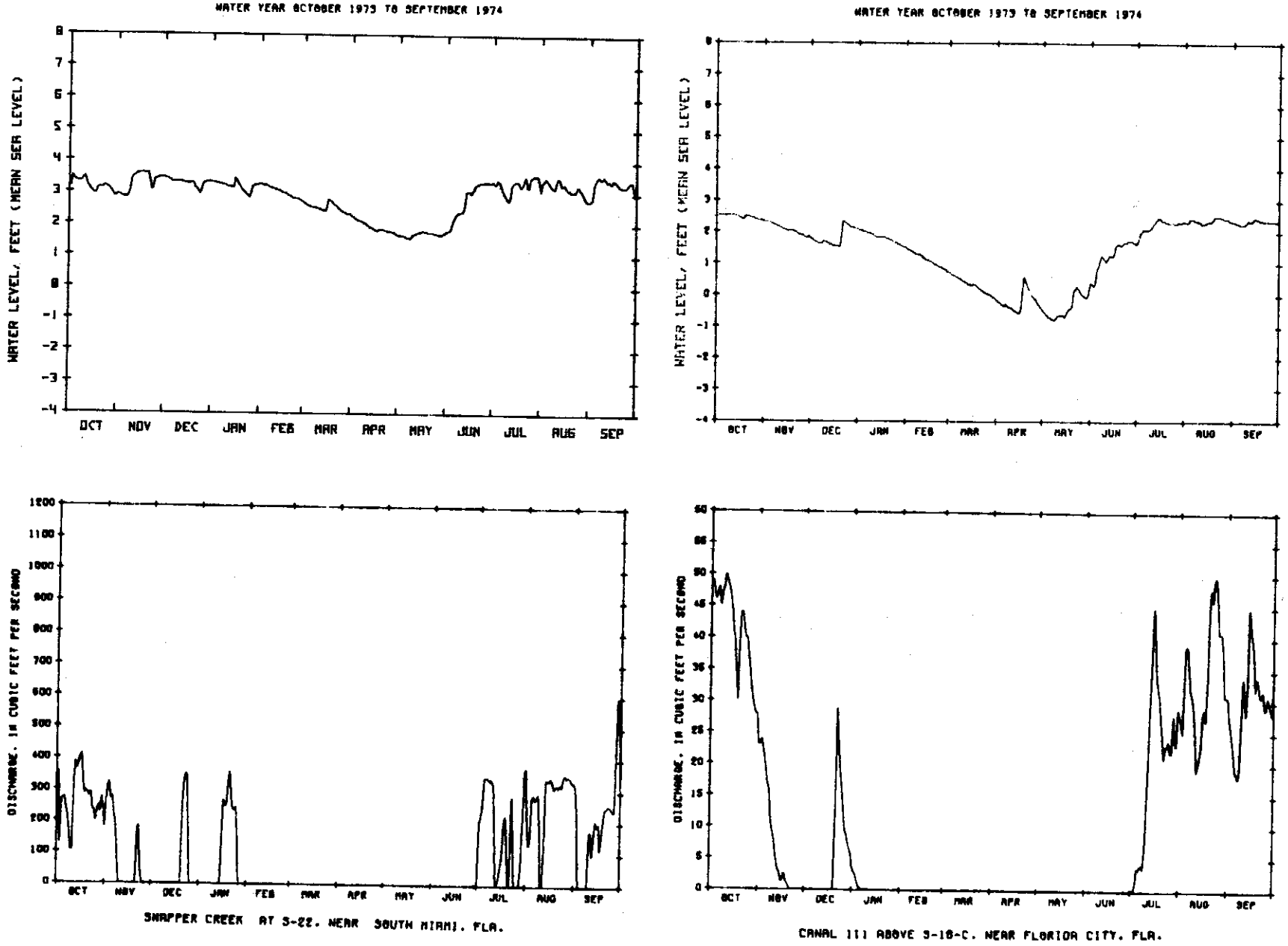

Figure 34. -- Discharge and stage for Snapper Creek and C-111 Canals, 1974 water year.

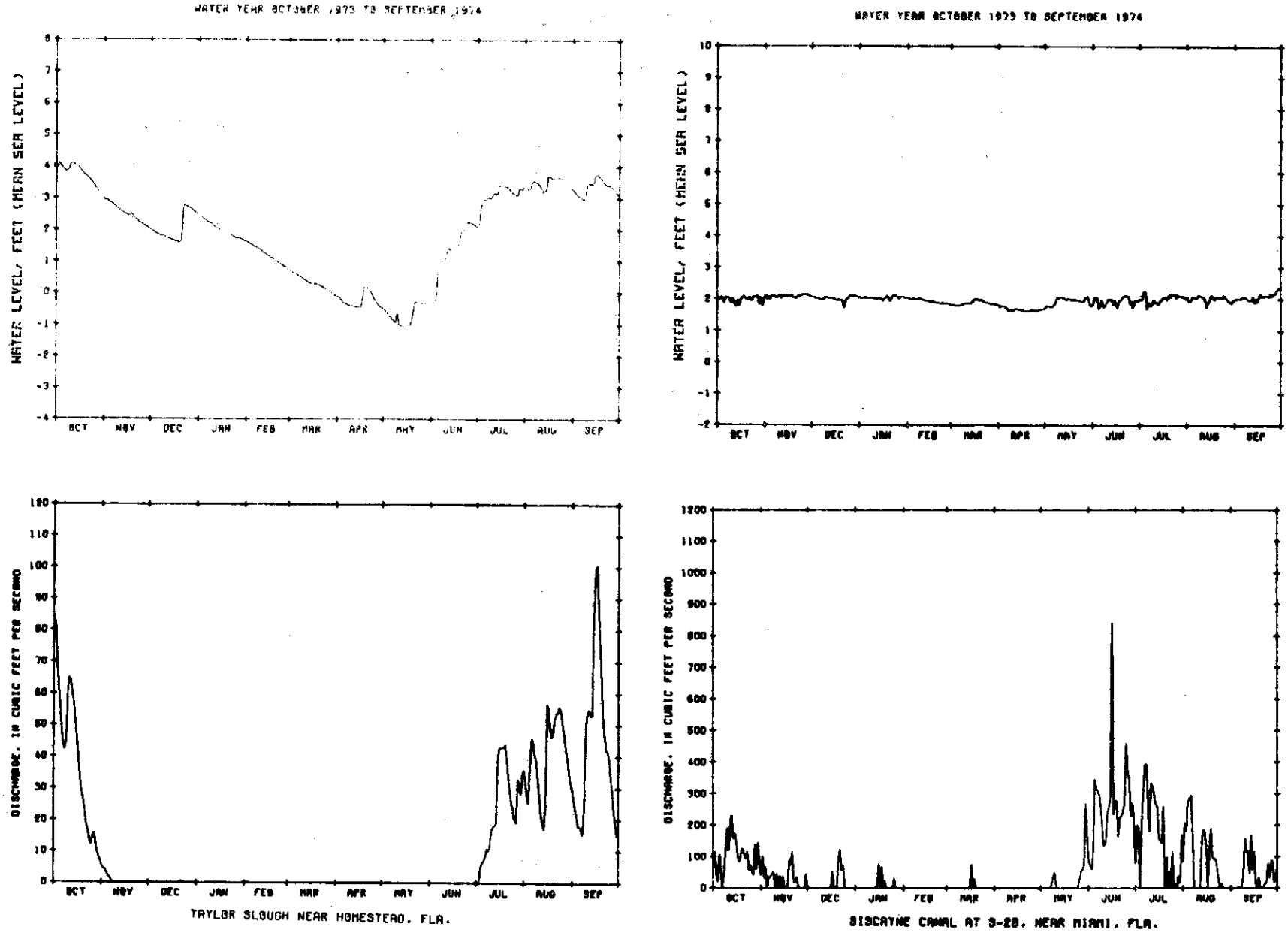

Figure 35.--Discharge and stage for Taylor Slough and Biscayne Canal, 1974 water year.

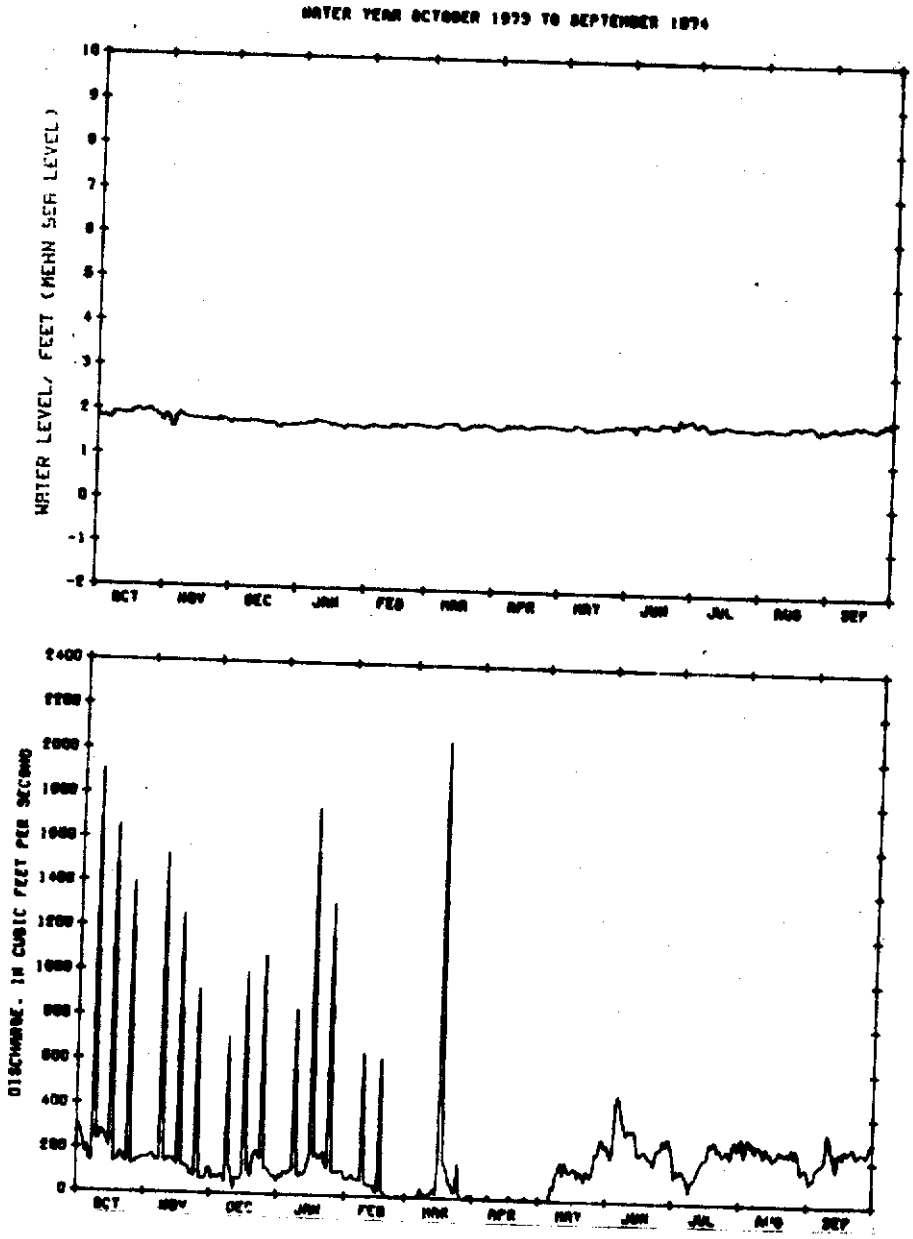

Figure 35a. --Discharge and stage for Little River Canal, 1974 water year.

Snake Creek Canal

Snake Creek Canal discharges more water than any other Dade County coastal canal. Flow in the canal is regulated by two gated-control structures, one at the eastern edge of Conservation Area 3B (S-30) and the other near the mouth (S-20).

During the 1974 water year the U. S. Geological Survey obtained daily stage and discharge records at two locations on the canal, one above salinity control S-29 and one at the confluence of the north and west forks of the canal at N. W. 67th Avenue.

The discharge at S-29 averaged 213 ft^3/s, 87 ft^3/s less than the 1973 water year and 178 ft^3/s less than the long-term average. The total discharge was 154,000 acre-feet. A maximum daily discharge of 1,110 ft^3/s occurred January 15 and the flow was zero on 146 days.

Flow-duration curves for the 1974 water years and for 1962-73 for Snake Creek Canal at S-29 are shown in figure 36. The range of discharge for the 1974 water year was less than for 1962-73. During low flows (below 200 ft^3/s) the discharges were less in 1974 than in 1962-73.

For 12 months of the 1974 water year the monthly mean flow at S-29 was below the 15-year average monthly flows (fig. 37).

In 1974 the year's discharge for S-29 was below average (fig. 38).

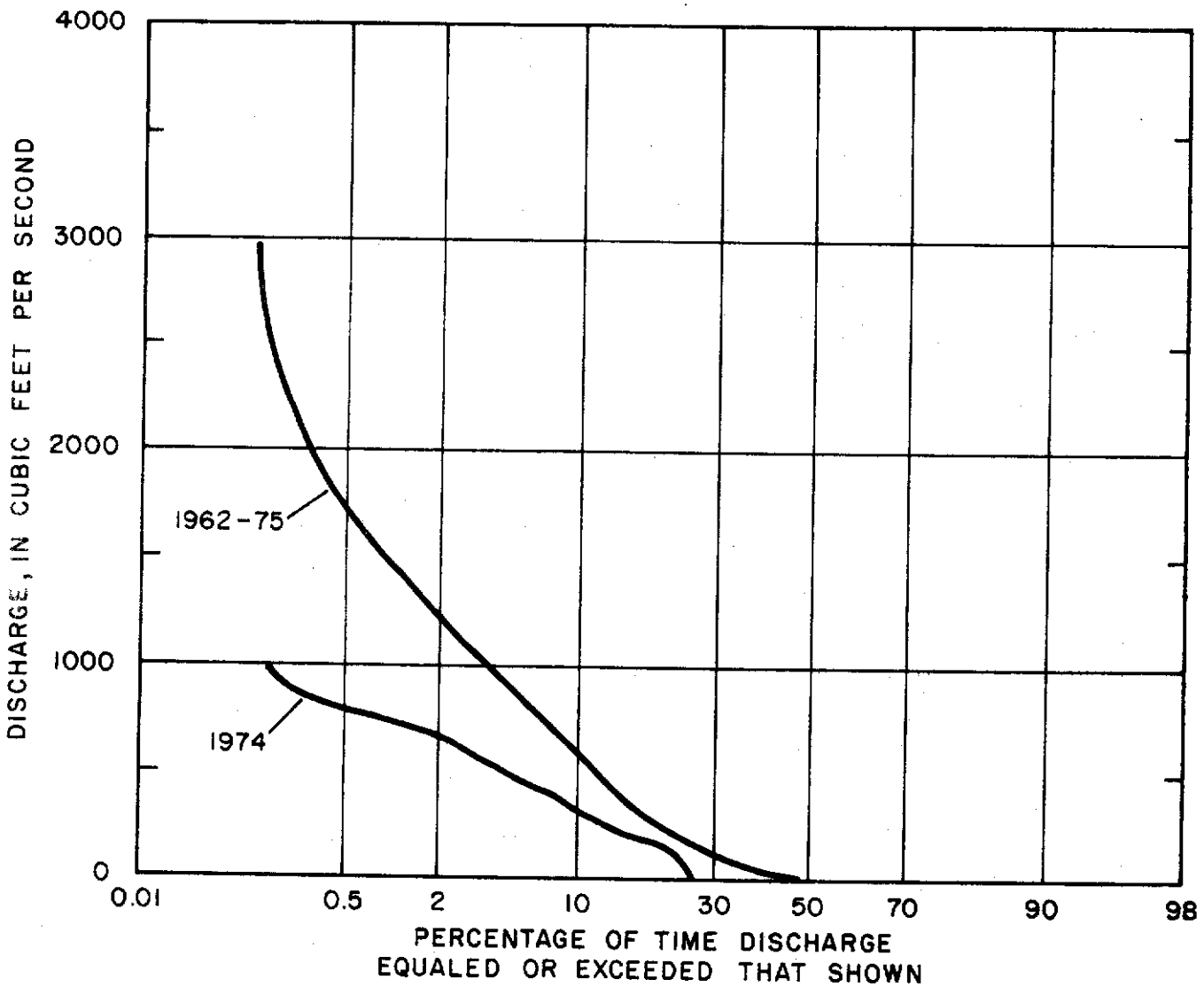

Figure 36. -- Flow duration curves for Snake Creek Canal at S-29, 1962-74, 1973, and 1974 water years.

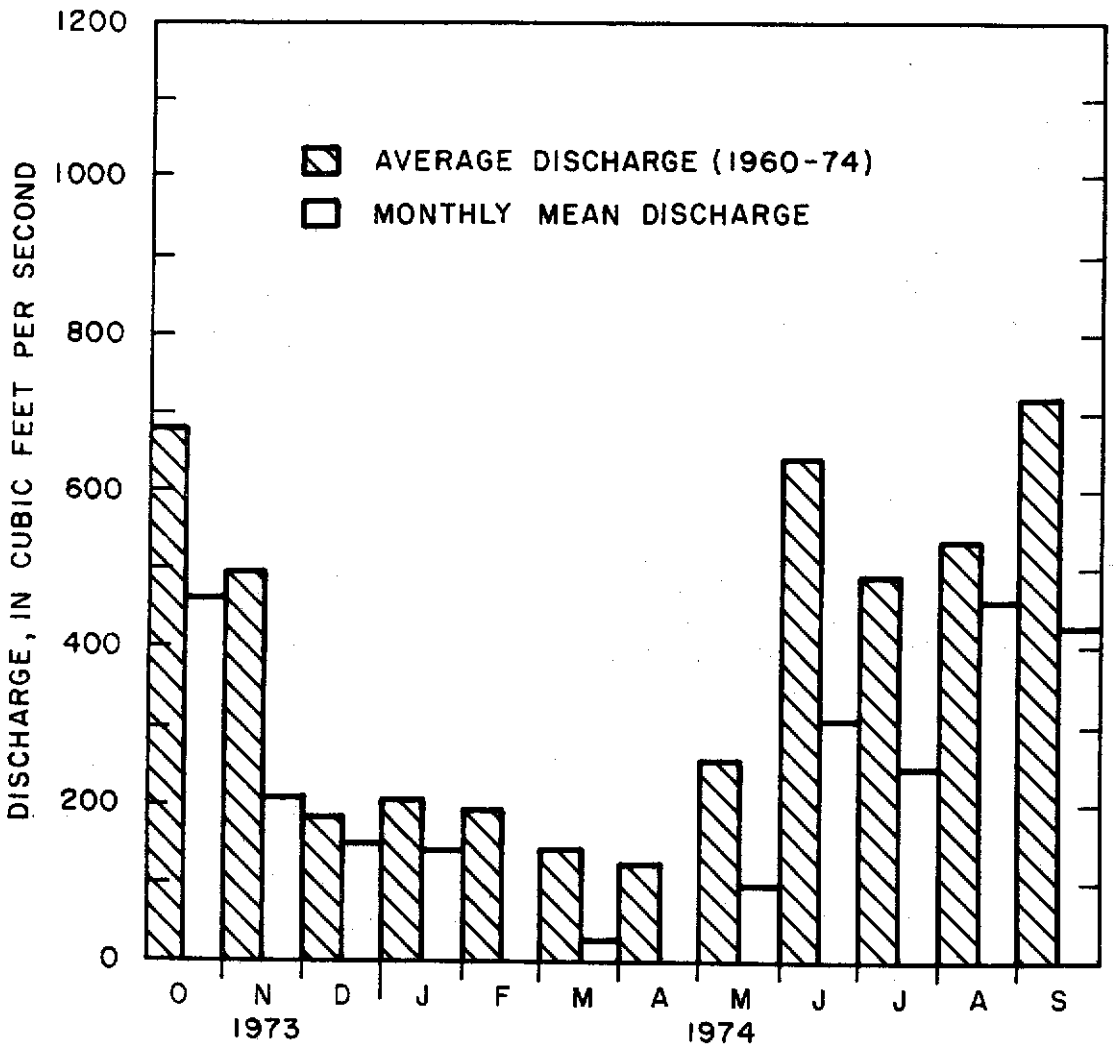

Figure 37. -- Monthly mean discharge, 1974 water year, Snake Creek Canal at S-29, and 15-year average monthly discharge.

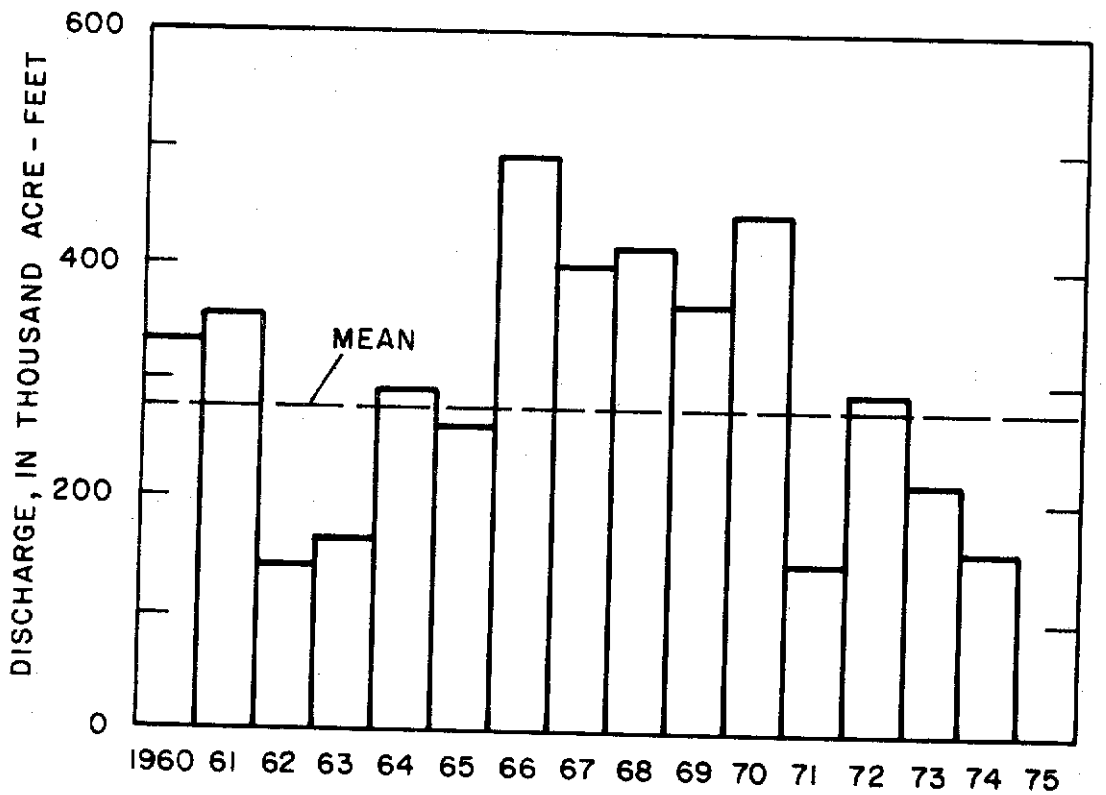

Figure 38. -- Yearly discharges for Snake Creek Canal at S-29, 1960-74 water years.

Miami Canal

Miami Canal is Dade County's second largest coastal canal. Records of daily flow in the canal were obtained by the U. S. Geological Survey at three sites, and daily records of stage were obtained at one additional site (fig. 2).

During the 1974 water year, the Miami Canal discharged, on the average, 136 ft^3/s at the N. W. 36th Street salinity control. The maximum daily discharge was 447 ft^3/s on October 1, 1973. The 15-year average is 312 ft^3/s.

During the 1974 water year the range in discharge (fig. 39) was less than that for 1962-73, although the low flows were slightly greater.

For 11 months the monthly mean discharge for the 1974 water year at N. W. 36th Street was below the 15-year average monthly discharge (fig. 40).

The annual flow for Miami Canal at N. W. 36th Street for each of the water years 1960-74 is shown in figure 41. The 1974 flow was less than that of the previous water year.

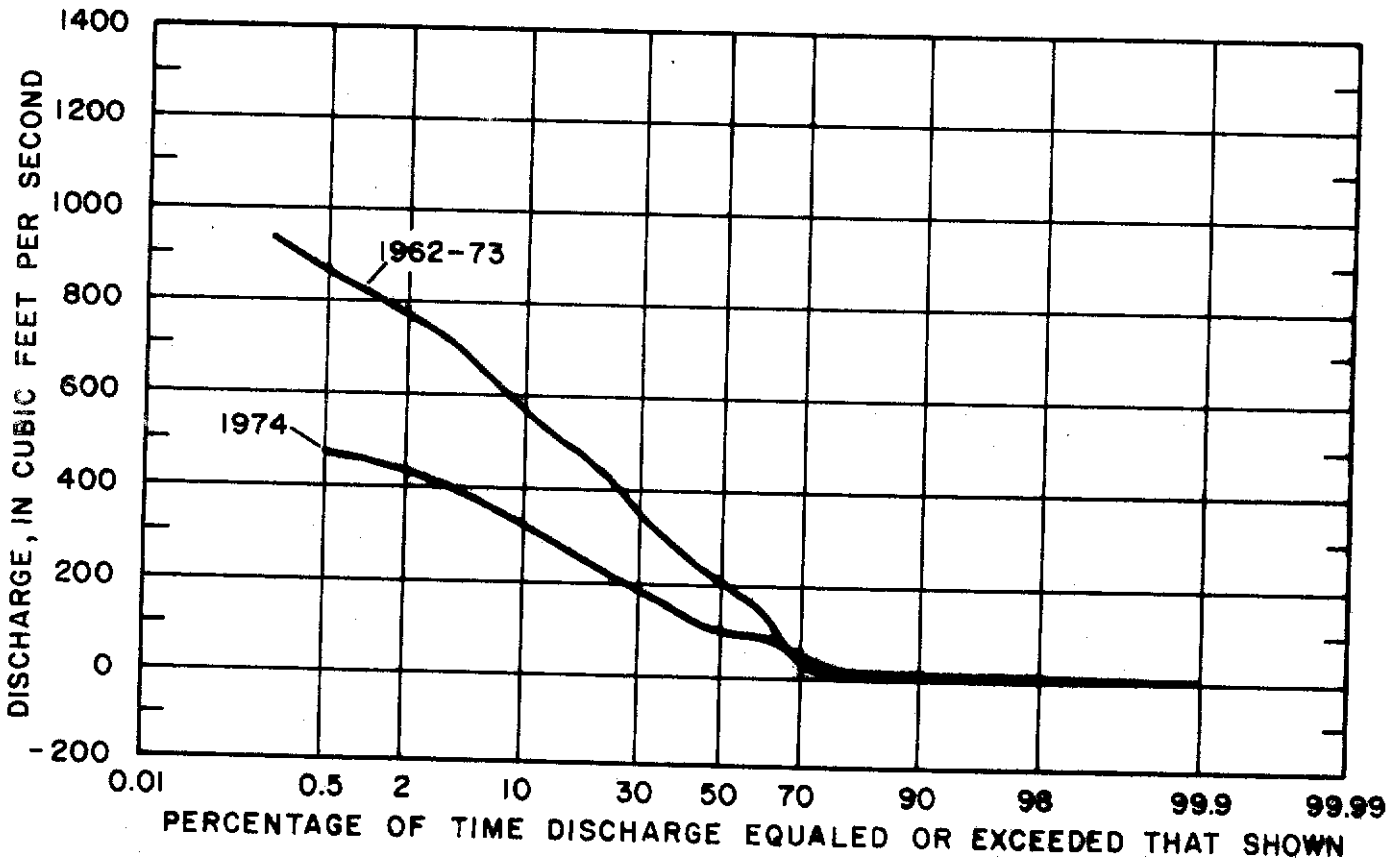

Figure 39. -- Flow-duration curves for Miami Canal at NW 36th Street 1962-74, 1973, and 1974 water years.

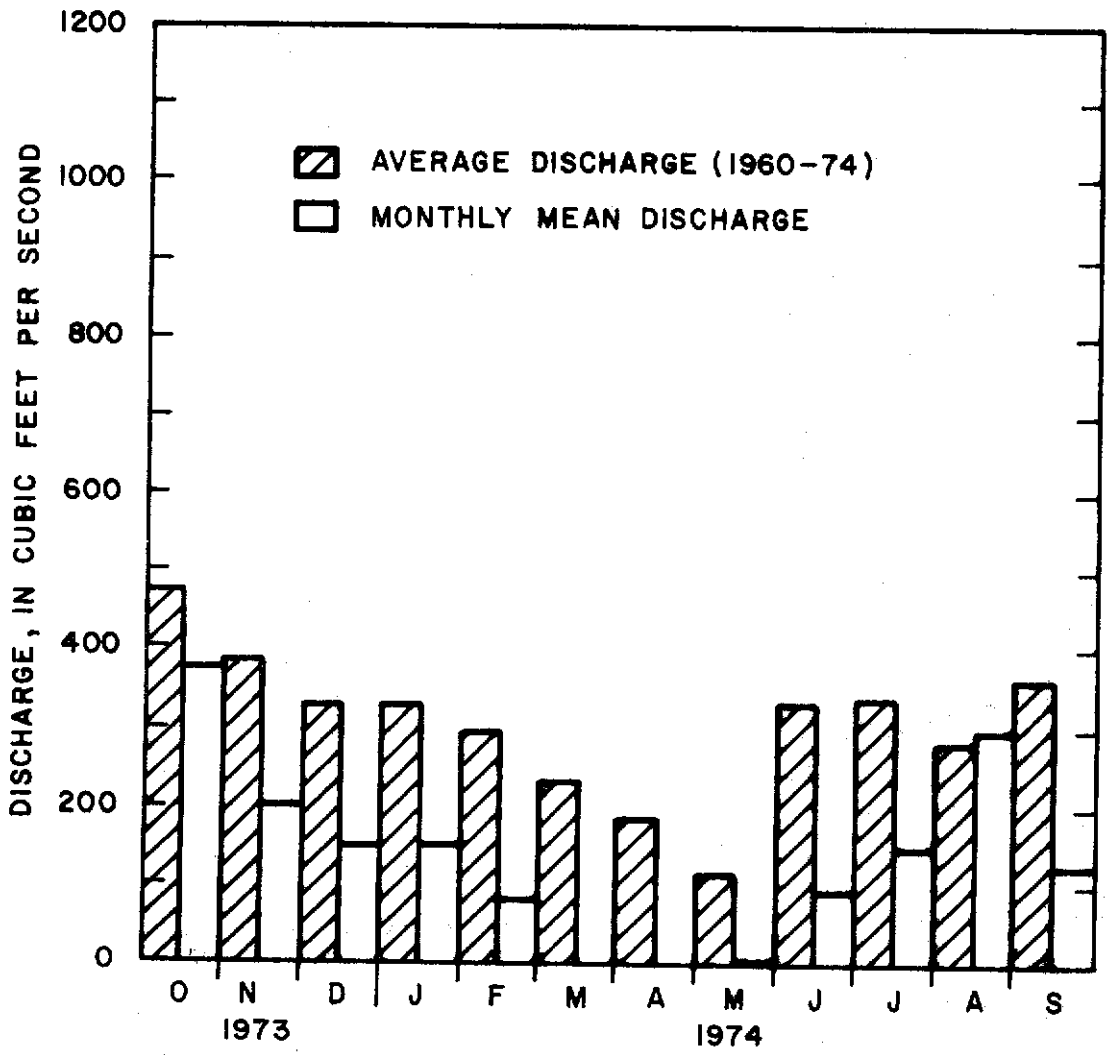

Figure 40. -- Monthly mean discharge, 1974 water year, Miami Canal at NW 36th Street, and 15-year average monthly discharge.

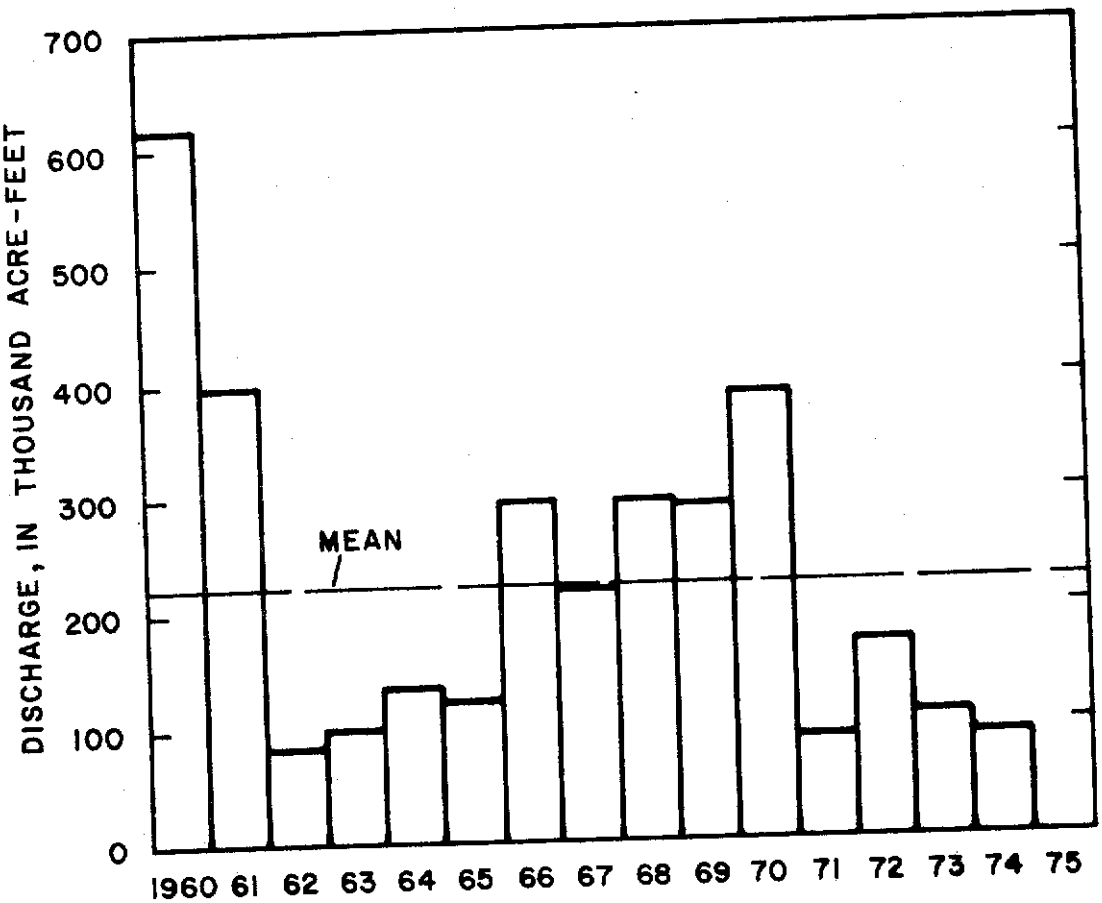

Figure 41. -- Yearly discharge for Miami Canal at N. W. 36th Street, 1960-74 water years.

Snapper Creek Canal

Snapper Creek Canal has an average annual runoff of 168,000 acre-feet. The U. S. Geological Survey maintains two daily discharge stations and one daily stage station along the canal. The discharge stations are at Miller Drive and just upstream of salinity control structure S-22. The stage station is just south of the juncture of Snapper Creek and the Tamiami Canal and is used as an auxiliary gage for determining daily discharge at Miller Drive. The Miller Drive station replaces Snapper Creek Canal near Coral Gables station. However, because of inflow from lateral canals between the two stations the records are not considered comparable.

During the 1974 water year, discharge at S-22 totaled 68,370 acre-feet; the daily average was 94.4 ft^3/s. The 15-year averages were 168,000 acre-feet and 232 ft^3/s. The maximum daily discharge of 601 ft^3/s occurred September 28 and there were 232 days of zero flow.

Biscayne Canal

Fifth largest total annual runoff in Dade County's coastal canals occurs in Biscayne Canal. The U. S. Geological Survey maintains gaging stations at two locations on the canal. The upper station, recording stage only, is 120 feet west of Red Road. The lower station, which records both stage and deflection, is upstream of control structure S-28.

During the 1974 water year total discharge at S-28 was 44,190 acre-feet and the average daily flow was 61 ft^3/s. The 12-year averages were 83,260 acre-feet and 115 ft^3/s. Maximum daily discharge during the year was 843 ft^3/s on June 15 and there were 202 days of no flow.

Little River Canal

During the 1974 water year Little River Canal was the Dade County coastal canal with the fourth largest long-term average annual runoff. The canal, 11 miles long, extends from upper Biscayne Bay 4.5 miles in a northwestward direction and then west to N. W. 87th Avenue where it joins the 87th Avenue Canal at a point 0.1 mile northeast of the Miami Canal. Flow in Little River Canal is affected by inflow from numerous lateral canals and is regulated by salinity-control structure S-27 near its mouth. Structure S-27 consists of two electrically powered sluice gates, which can be operated manually or automatically. When the gates are open, flow is affected by tide and occasionally reverses.

The U. S. Geological Survey maintains two gaging stations along the canal. The upper station located in Hialeah at the Palm Avenue bridge records stage only; the lower station, 0.4 mile above S-27, records both stage and deflection.

During the 1974 water year total discharge at S-27 was 101,500 acre-feet and the average daily flow was 140 ft^3/s. The 10-year averages were 121,600 acre-feet and 168 ft^3/s. Maximum daily discharge during the year was 492 ft^3/s on June 5, and there were 52 days of flow.

Taylor Slough

Taylor Slough is a natural drain in the east part of the Everglades National Park. It extends from about 10 miles north of State Highway 27 southward to Florida Bay. The drainage area north of the highway is about 40 square miles. Runoff from this area is recorded continuously by the U. S. Geological Survey, at Highway 27, 1.5 miles north of the Royal Palm Ranger Station and 9 miles southwest of Homestead. The gage records water levels that have been correlated to discharge on the basis of discharge measurements. Discharge measurements consist of the sum of the measurements through all the outlets along a 3-mile length of Highway 27.

During 1974, southward flow at the Taylor Slough gage was 8,800 acre-feet, and the average daily flow was 12.2 ft^3/s. The 13-year average was 28,380 acre-feet and 39.2 ft^3/s. Maximum discharge during the water year, 102 ft^3/s, occurred September 16 when the water level reached a daily average of 3.75 feet above msl.

Tamiami Canal Outlets
(Levee 67A to 40-Mile Bend)

Throughout the 1974 water year, all four S-12 structures (A, B, C, and D) along the south side of Conservation Area 3A remained partly or fully open. The combined southward flow to the Everglades National Park was 428,400 acre-feet, 160,000 acre-feet more than the 1973 water year.

The total discharge was 249,800 acre-feet greater than at any other station in the county. Daily records of stage and discharge were obtained from four gaging stations (fig. 2), one above and one below each control. Maximum gage height north of S-12-C (the index station) during the 1974 water year was 10.06 feet above msl on September 30; the minimum was 6.02 feet above msl on May 6.

The flow to the south through the Tamiami Canal Outlets, Levee 67A to 40-Mile Bend, consists primarily of runoff from Conservation Area 3A.

Water Levels

During the 1974 water year the U. S. Geological Survey obtained water-level records from 42 gaging stations. Water levels fluctuated within the normal ranges and there was no major flooding. Levels declined substantially from November 1973 through May 1974 when the dry period was broken by rains during June and July.

Most highs occurred in September and October, and most lows occurred in April and May. Two new lows of record were established, Tamiami Canal east of Levee 30 and Grand Canal near Florida City.

The maximum and minimum water level at each station for the 1974 water year and for the period of record are shown in table 4.

Table 4. --Summary of Dade County surface-water levels for the 1974 water year.

Station	Water level, feet, mean sea level			
	1974 water year		Period of record	
	Maximum (feet)	Minimum (feet)	Maximum (feet)	Minimum (feet)
Intracoastal Waterway at Golden Beach	3.37	-1.44	3.37	-1.56
Snake Creek Canal at NW 67 Ave.	3.03	1.84	4.53	0.58
Snake Creek Canal at S-29	2.61	0.03	3.88	-1.00
Biscayne Canal at Red Road	2.52	1.69	8.12	0.57
Biscayne Canal at S-28	2.60	0.40	4.24	-0.34
Biscayne Bay at North Miami	3.30	-1.53	5.52	-1.77
Little River Canal at Palm Ave.	2.55	1.60	4.15	0.69
Little River at S-27	2.58	0.67	4.49	-0.18
Miami Canal east of Levee 30 (formerly Miami Canal at Broken Dam)	4.98	2.47	6.21	1.40
Miami Canal at Pennsuco	3.78	1.95	9.07	0.05
Miami Canal at Palmetto Bypass	3.67	1.98	4.74	0.99
Miami Canal at NW 36 Street	3.40	0.15	5.14	-0.55
Tamiami Canal at Forty-Mile Bend	8.52	5.06	10.30	1.46
Tamiami Canal above S-12-B	10.07	5.97	10.50	5.31
Tamiami Canal below S-12-B	9.69	5.95	10.22	5.35
Tamiami Canal above S-12-C	10.06	6.02	10.52	5.34
Tamiami Canal below S-12-C	10.04	5.94	10.36	5.37

Table 4. --(Continued) Summary of Dade County surface-water levels for the 1974 water year.

Station	Water level, feet, mean sea level			
	1974 water year		Period of record	
	Maximum (feet)	Minimum (feet)	Maximum (feet)	Minimum (feet)
Tamiami Canal at Bridge 53	6.89	3.27	9.76	1.66
Tamiami Canal east of Levee 30	6.75	2.50	9.37	2.50
Tamiami Canal west of Levee 30	6.89	3.39	10.02	2.72
Tamiami Canal near Coral Gables	3.85	1.64	6.00	1.08
Tamiami Canal at Red Road	2.95	0.68	6.00	-0.52
Miami Canal at N. W. 27 Avenue	3.30	-1.33	5.38	-1.54
Biscayne Bay at Coconut Grove	3.14	-1.45	9.90	-1.94
Snapper Creek near Coral Gables	4.13	1.64	6.74	1.30
Snapper Creek near Miller Drive	4.20	1.36	6.93	1.23
Snapper Creek at S-22	3.62	1.52	6.02	-0.59
Black Creek at Richmond Heights	5.51	1.08	7.08	0.74
Black Creek abovs S-21	2.50	-0.06	6.41	-0.57

Table 4. --(Continued) Summary of Dade County surface-water levels for the 1974 water year.

Station	Water level, feet, mean sea level			
	1974 water year		Period of record	
	Maximum (feet)	Minimum (feet)	Maximum (feet)	Minimum (feet)
Mowry Canal above control	2.52	-0.15	9.25	-1.03
Biscayne Bay near Homestead	3.26	-0.87	9.82	-1.56
Card Sound Canal near Florida City	2.77	-0.36	2.77	-0.44
Grand Canal near Florida City	2.00	-0.18	2.70	-0.18
Card Sound at Model Land Canal	2.99	-0.21	3.49	-0.55
Canal 111 above S-18-C	2.63	-0.81	3.00	-1.53
Taylor Slough	4.15	-1.08	5.28	-1.67
Taylor Slough at Royal Palm	3.78	-0.88	4.35	-1.50
Everglades P-37	1.89	-1.50	3.05	-1.97
Everglades	6.67	3.09	7.80	2.20
Everglades P-36	4.07	1.30	4.91	0.79
Everglades P-38	1.94	-1.41	2.92	-1.45
Levee 67 extension nr Richmond Heights	8.90	6.03	8.90	5.85

SALT-WATER INTRUSION

Salt-water intrusion continues to be a major threat to the fresh-water resources of Dade County. Hydrologic and geologic studies have shown that extensive draining of the area coupled with heavy pumping from the Biscayne aquifer led to walt-water encroachment. The major advances of the salt front in the Biscayne aquifer occurred before the 1950's. The salt front has retreated gradually seaward since construction of salt barriers in all major canals, except in two areas.

The approximate landward extent of ground water with at least 1,000 mg/l (milligrams per litre) of chloride at the base of the Biscayne aquifer for 1972, 1973, and 1974 is shown in figure 42.

During 1974 the salt front was located on the 1972 and the 1973 positions from Snake Creek southward to Structure 18-C at Canal 111 with the exceptions of the Miami International Airport and the Homestead Air Force Base, where salt water had intruded further inland.

The salt front had migrated to within 0.7 mile of the city of Miami's well field in Miami Springs and into the Air Force Base well field.

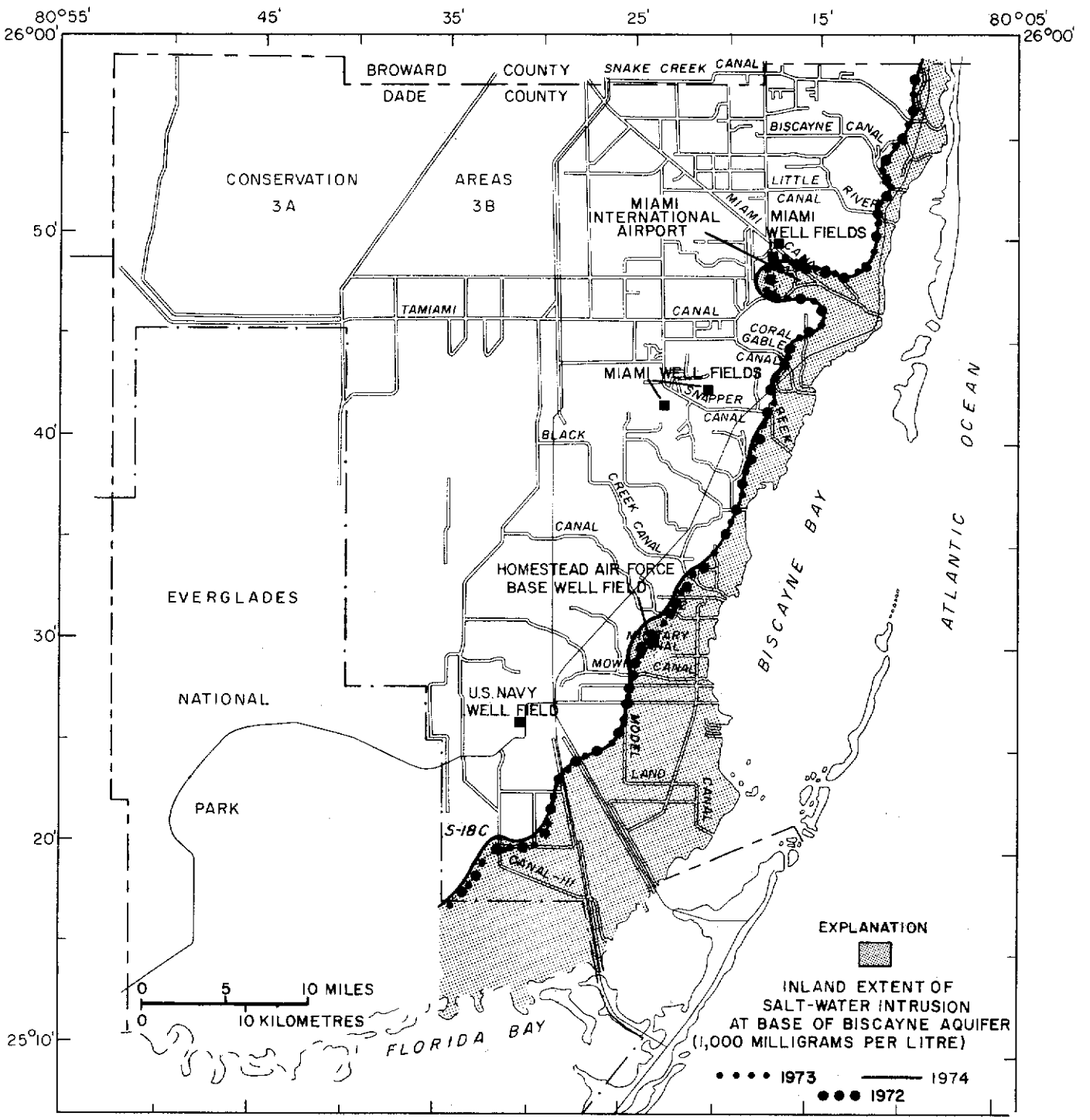

Figure 42. --Inland extent of salt-water intrusion, 1972, 1973, and 1974 calendar years.

WATER QUALITY

During 1970-74 water samples were obtained from an extensive network of canal, lake, and well stations in the east part of Dade County (fig. 43). Chemical and physical analyses were made on water samples from 10 stations; nutrient samples were gathered at about 70 locations; organic constituents, pesticides and PCB's (polychlorinated biphenyls) were determined from samples obtained at 13 locations; and radiochemical samples were collected at five stations.

The chemical and physical data are summarized in table 5. All values are within allowable limits for public water supplies (Water Quality Criteria 1972) except station 8 (Black Creek Canal at S-21, May 1971). In the following comparisons of data in table 5, station 8 has been excluded. Hydrogen ion concentration (pH) ranged from 7.1 to 8.6. Chloride concentration ranged from 15 to 140 mg/l. Color ranged from 5 to 70 and turbidity from 1 to 32 units. Hardness ranged from about 180 to 320 mg/l. Other mineral constituents such as fluoride, sulfate, silica, and metals were within allowable limits for public water supplies.

A large part of the nutrient data was determined from special nutrient samplings of water in south Florida from 1970 through 1974.

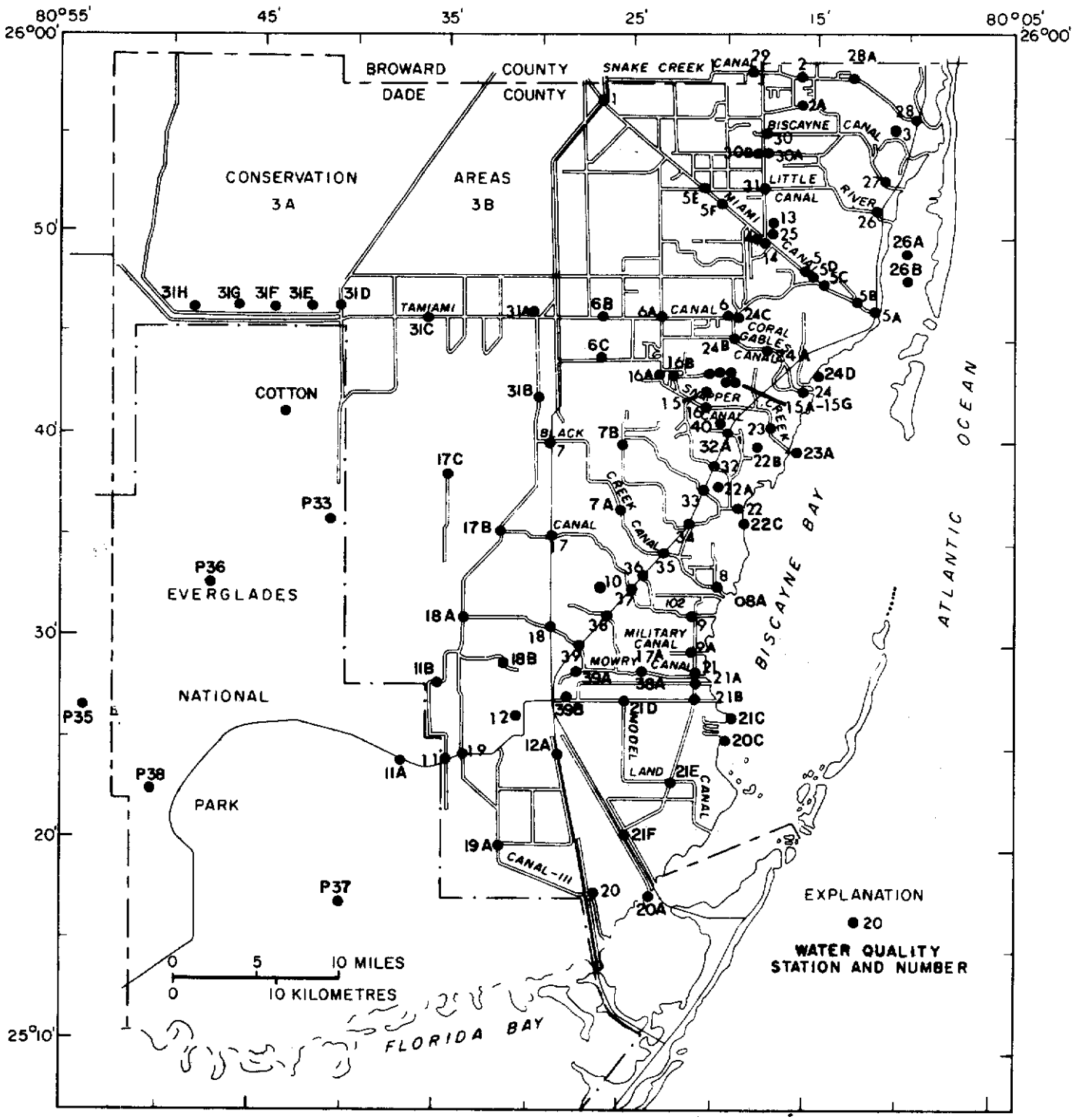

Figure 43. -- Water quality sampling stations, 1970, 1971, 1972, 1973 and 1974 calendar years.

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County
For 1970 - 1974 calendar years.

Values in milligrams per litre except
where indicated.

Sampling Station No.	Name of Station	Date	Temperature (C)	Specific Conductance in Micromhos at 25°C (Kx10⁶)	pH	Color	Turbidity	Dissolved Oxygen	BOD	Dissolved Solids: Residue at 180°C	Hardness as $CaCO_3$: Calculated	Hardness as $CaCO_3$: Calcium Magnesium	Hardness as $CaCO_3$: Non Carbonate	Bicarbonate (HCO^3)	Carbonate (CO_3)
1	Miami Canal east of Levee 30 (formerly Miami Canal at Broken Dam)	7-11-74		707	7.3	50				490	391	270	18	305	0.0
		12-11-73		720	7.4	60				422	377	280	37	291	0
		6-12-73		840	7.6	60				556	460	270	40	280	
		12-20-72		650	8.0	50				430	340	250		280	0
		4- 4-72													
		11-18-71		550	8.3	40				350	299	210		253	0
		5-25-71		750	8.1	40				385	381	260	15	304	0
		5-10-71	26	580			20	4.9							
		3- 9-71	18.5	663	7.6	45	10			390	361	260	1	312	0
		10-22-70		574	8.2	35				344	318	220	2	264	0
		5-15-70	25	730	8.6	50				442	409	221		248	16
		5- 6-70	25	750	7.7	70				457	401	237	18	268	0
		1-13-70	19	590	7.8	40				356	320	222	3	268	0
2	Snake Creek Canal at N.W. 37 Ave.														
		12-12-73		682	7.7	50				390	352	260	32	281	0
		6-12-73		640	7.9	70				421	360	260	24	283	0
		12-20-72		655	8.0	50		6.7		443	340	240	7	284	0
		4- 4-72		650	8.1	45				398	340	240	6	280	0
		11-18-71		585	8.6	50				390	320	220		263	12
		5-25-71		669	8.2	40				372	365	240	1	292	0
		10-22-70		577	8.1	50				378	329	240	14	272	0
		5-15-70	25	750	8.3	50				465	404	228		280	4
		1-13-70	20.5	620	8.5	50				365	324	233	27	252	12

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County
For 1970 - 1974 calendar years.

Values in milligrams per litre except
where indicated.

Sampling Station No.	Name of Station	Date	Temperature (C)	Specific Conductance in Micromhos at 25°C (Kx10^6)	pH	Color	Turbidity	Dissolved Oxygen	BOD	Dissolved Solids	Hardness as $CaCO_3$			Bicarbonate (HCO^3)	Carbonate (CO_3)
										Residue at 180°C	Calculated	Calcium Magnesium	Non Carbonate		
5	Miami Canal above control at N.W. 36 Street	6-12-73	29	950	8.2	50	6	6.5	1.8	493	470	240	56	224	
		12-26-72	20.5	590	7.9		2	2.4	1.1						
		10-31-72	20.5	590	7.9		2	2.4	1.1						
		9- 8-72	28	550	7.8	45	3	7.0	1.1	284	260	220	4	260	0
		5- 1-72	26.5	590	8.2	45	1	7.7	7.3	355	310	230	6	268	0
		3-31-72		570	8.4	40	4		1.3	341	280	210	10	242	1.
		12-29-71	23	590	8.0	50	15	2.1	2.0	332	314	230	2	280	0
		9-27-71	27	540	7.7	45	15	1.2		346	316	220	0	208	0
		4-29-71	29	700	8.6	35	10	9.3	2.3	420	393	240	4	261	24
		3- 9-71	20	632	7.9	35	6.0			392	338	240		296	0
		1-25-71	19	550	7.7	30	3.0	7.3		332	295	220	5	260	0
		9-28-70	26	630	7.6	35	28	.6	1.0	321	293	213		265	0
		8- 5-70	29	550	8.4	30	21	1.4	1.2	348	294	210	3	242	4
		6- 3-70	27	560	7.5	60		.4	1.4	358		230		250	0
		5- 5-70	26	750	8.0	40	13	7.6		469	412	240	15	274	0

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County For 1970 - 1974 calendar years.

Values in milligrams per litre except where indicated.

Sampling Station No.	Name of Station	Date	Temperature (C)	Specific Conductance in Micromhos at 25°C (Kx10⁶)	pH	Color	Turbidity	Dissolved Oxygen	BOD	Dissolved Solids: Residue at 180°C	Hardness as CaCO3: Calculated	Hardness as CaCO3: Calcium Magnesium	Hardness as CaCO3: Non Carbonate	Bicarbonate (HCO^3)	Carbonate (CO_3)
6	Tamiami Canal near Coral Gables	7-12-74		528	7.4	30				326	293	230	19	258	0
		12-11-73		541	7.4	50				317	304	240	28	257	0
		6-12-73		540	7.9	40				328	290	160	22	168	0
		12-20-72		490	8.0	40				320	250	210	7	248	0
		11-18-71		455	8.5	40				290	248	200	14	222	9.2
		5-25-71		500	8.3	40				294	274	200	6	232	0
		5- 3-71	24	465			20	7.0							
		10-23-70		467	8.3	30				283	255	190	7	220	4
		5-15-70	25	532	8.7	30				332	301	223	3	252	8
		5- 4-70	26.5	550	7.9	50	32	7.8		335	298	227	9	266	0
		1-13-70	21	470	7.8	30				285	257	204	11	236	0
7	Black Creek Canal at S.R. 27 near Richmond Heights	7-12-74		581	7.6	50				384	323	270	17	303	0
		6-12-73		540	7.6	40				323	290	240	10	280	0
		12-20-72		600	7.9	45				391	310	240		298	0
		11-25-71		445	8.4	60				292	244	200	4.5	234	4.8
		5-25-71		560	8.3	40				320	316	270	27	292	0
		10-22-70		463	8.0	5				275	263	220	27	236	0
		5-15-70	24	530	8.3	30				340	301	241	7	274	6
		1-12-70	21	780		40				285	247	211	31	220	6

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County For 1970 - 1974 calendar years.

Values in milligrams per litre except where indicated.

Sampling Station No.	Name of Station	Date	Temperature (C)	Specific Conductance in Micromhos at 25°C (Kx10⁶)	pH	Color	Turbidity	Dissolved Oxygen	BOD	Dissolved Solids: Residue at 180°C	Hardness as CaCo₃: Calculated	Hardness as CaCo₃: Calcium Magnesium	Hardness as CaCo₃: Non Carbonate	Bicarbonate (HCO_3)	Carbonate (CO_3)
8	Black Creek at S-21 near Goulds														
		6- 7-73	28	1290	7.8	5	10	8.3	1.5	866	740	290	210	100	0
		9- 8-72	27	820	8.0	5	2	4.3	1.1	486	450	240	36	244	0
		5- 1-72	25	515	7.9	20	30	4.4	5.7	298	280	190		238	0
		9- 7-71	25	650	7.1	20	7	1.6	2.8	342	331	210	24	228	0
		5-12-71	29	10100	8.8	30	15	16.4	4.3		6,900	1,400	1200	232	28
		9-28-70	28	477	7.7	5	12	3.3	1.4	281	279	225	21	249	0
		5-13-70	27	515	8.3	50	4		4.1	309	295	222	28	229	4
		5- 4-70	27	500	7.4	10	12	7.4		301	286	225	32	236	0
11	Levee 31 (w) Canal at S.R. 27														
		7-12-74		412	7.6	5				260	226	190	12	223	0
		12-11-73		444	7.6	7				246	237	220	29	228	0
		6-12-73		395	7.7	5				235	220			180	13
		12-20-72		420	8.0	10				234	220	180			0
		4- 4-72		400	8.0	3				229	210	180	4	216	0
		11-18-71		360	8.4	10				194	205	170	16	189	3.6
		5-25-71		410	8.1	5				224	217	160	14	172	0
		10-23-70		407	8.2	10				228	221	190	9	220	0
		5-10-70		408	8.4	5				234	230	190	11	210	4
		1-12-70	20.5	433	7.7	10				251	202	185	54	160	0

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County For 1970 - 1974 calendar years.

Values in milligrams per litre except where indicated.

Sampling Station No.	Name of Station	Date	Temperature (C)	Specific Conductance in Micromhos at 25°C (K×10⁶)	pH	Color	Turbidity	Dissolved Oxygen	BOD	Dissolved Solids: Residue at 180°C	Hardness as $CaCo_3$: Calculated	Hardness as $CaCo_3$: Calcium Magnesium	Hardness as $CaCo_3$: Non Carbonate	Bicarbonate (HCO^3)	Carbonate (CO_3)
12	U.S. Navy Well #7 at Florida City (raw water)														
		4- 4-72		530	8.0	0				315	300	240	53	232	0
13	Preston Water Plant at Hialeah (raw water)														
		7-11-74		647	7.5	30				416	370	260	31	277	0
		12-10-73		632		30				372	350	260	23	285	0
		6-12-73		600	7.6	40				371	350	250	24		
		12-20-72		650	8.0	45				388	340	240	10	280	0
		4- 4-72		600	8.0	15				358	340	260	26	280	0
		11-18-71		580	8.3	20				364	337	230	1	275	0
14	Miami Canal at Hialeah Water Plant														
		5- 2-73	23	665	7.8	50	6	5.6		407	360	270	22	302	
		12- 1-72	24.5	580	8.0	60	3	3.0	1.1	298	328	220	0	272	0
		6 -5-72		575	7.6	50	3		1.1	341	310	230	3	280	0

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County for 1970 - 1974 calendar years.

Values in milligrams per liter except where indicated

(* micrograms per litre)

Sampling Station No.	Date	Alkalinity as $CaCO_3$	Chloride (Cl)	Fluoride (F)	Sulfate (So_4)	Silica ($SSiO_2$)	Arsenic (As) *	Calcium (Ca)	Cadmium (Cd) *	Cobalt (Co) *	Chromium (Cr^{+6}) *	Chromium (Cr)*	Copper (Cu)	Iron (Fe)	Lead (Pb) *	Magnesium (Mg)	Manganese (Mn)	Mercury (Hg) *	Potassium (K)	Sodium (Na)	Str Strontium (Sr)	Zinc (Zn) *
1																						
	7-11-74	250	71	0.5	10.0	7.1		89											16	50	0.870	
	12-11-73	239	74	.4	4.2	8.4		84								16			2.0	45	.001	
	6-12-73	230	100	.7	40	10		76								20			5.6	69	1.6	
	12-20-72	230	64	.2	.8	5.5		75								9.8			1.0	42	.90	
	4- 4-72																					
	11-18-71	224	50	.3	.2	6.6		74								5.0			1.3	35	.40	
	5-25-71	249	66	.2	12	7.7		86								12			1.4	44		
	5-10-71					6.6																
	3- 9-71	256	62	.4	.4	7.1	10	86				0	0.00	0.42	0	10	0.01	0	1.1	39	82	20
	10-22-70	217	56	.4	.8	8.4		72								9.4			1.4	38		
	5-15-70	230	92	.6	16	10		60								17			1.9	71	1.20	
	5- 6-70	220	93	.5	17	9.9		67								17			1.9	63		
	1-13-70	220	58	.3	.4	8.6		71								11			1.2	38		
2																						
	12-12-73	230	63	.4	6.4	7.3		82								14			1.5	39	.001	
	6-12-73	236	55	.5	13	9		88								10			1.2	38	1.00	
	12-20-72	233	56	.6	12			83								8.8			1.1	37	.90	
	4- 4-72	230	64	.5	5.6	64		76								11			1.0	41	.70	
	11-18-71	196	55	.4	11	7.0		82								4.7			1.2	37	.60	
	5-25-71	239	73	.3	.8	7.4		80								10			1.0	48		
	10-22-70	223	48	.5	12	7.6		82								7.8			1.4	32		
	5-15-70	236	88	.5	10	9.8		73								11			1.6	66	.86	
	1-13-70	223	52	.3	1.2	8.2		78								9.4			.9	40		

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County for 1970 - 1974 calendar years.

Values in milligrams per liter except where indicated.

(* micrograms per litre)

Sampling Station No.	Date	Alkalinity as $CaCO_3$	Chloride (Cl)	Fluoride (F)	Sulfate (So_4)	Silica ($SSiO_2$)	Arsenic (As) *	Calcium (Ca)	Cadmium (Cd) *	Cobalt (Co) *	Chromium (Cr^{+6})*	Chromium (Cr) *	Copper (Cu)	Iron (Fe)	Lead (Pb) *	Magnesium (Mg)	Manganese (Mn)	Mercury (Hg) *	Potassium (K)	Sodium (Na)	Strontium (Sr)	Zinc (Zn) *
5																						
	12-29-71	230	48	0.3	1.0	5.5	0	78						0.14		8.8			1.6	31	0.85	
	9-27-71	253	39	.3	8.5	6.6	0	75	0	0	1		0.00	.19	1	6.8	0.01		1.9	25	.68	10
	4-29-71	234	78	.4	21	5.8	20	72	0	1	0		.01	.04	2	14	.01		1.8	58	1.00	60
	3- 9-71	243	57	.4	0.0	5.4	20	80				0	.01	.10	1	9.7	.00	0	.09	37	.74	20
	1-25-71	213	47	.3	.0	4.2		76						.00		6.9			1.0	30		
	9-28-70	217	42	.3	.0	7.2	0	73				10	.01	.25	6	7.2	.01		1.8	30	.73	40
	8- 5-70	205	51	.4	.8	7.0		70								8.1			2.0	32		
	6- 3-70		48	.3	.6	6.3		78						.19		8.8			1.4	33		
	5- 5-70	225	96	.6	18	10		68								17			2.0	65		
	6-12-73	184	140	.5	43	6.0	7	64	0				.006	.03	1	19	.01	2	5.2	86	1.2	10
	12-26-72					5.6	10		0		0		.01		6							
	10-31-72					5.0									6							
	9- 8-72	213	43	.3	3.2	5.8	10	70	1	0	30		.00	.28	10	10	.03	0		28	1.00	0
	5- 1-72	220	56	.4	1.6	4.3	10	75	0	0		0	.00	.30	27	9.0	.01		1.1	34	.82	20
	3-31-72	200	48	.3	1.6	3.4		70								8.2			.5	30		

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County for 1970 - 1974 calendar years.

Values in milligrams per liter except where indicated.

(* micrograms per litre)

Sampling Station No.	Date	Alkalinity as $CaCO_3$	Chloride (Cl)	Fluoride (F)	Sulfate (So_4)	Silica ($SSiO_2$)	Arsenic (As) *	Calcium (Ca)	Cadmium (Cd) *	Cobalt (Co) *	Chromium (Cr^{+6}) *	Chromium (Cr) *	Copper (Cu)	Iron (Fe)	Lead (Pb) *	Magnesium (Mg)	Manganese (Mn)	Mercury (Hg) *	Potassium (K)	Sodium (Na)	Strontium (Sr)	Zinc (Zn) *
6																						
	7-12-74	212	38	0.1	7.1	5.1		82								6.1			1.8	25	0.670	
	12-11-73	211	33	.4	25	5.2		83								7.7			1.3	22	.001	
	6-12-73	138	73	.6	20	4.5		44								12			1.4	48	.80	
	12-20-72	203	19	.3	6.4	4.0		75								4.7			.8	20	.80	
	4- 4-72																					
	11-18-71	167	35	.3	3.6	4.8		74								2.6			.8	24		
	5-25-71	190	45	.3	6.4	4.2		68								6.5			.6	28		
	5- 3-71					3.3																
	10-23-70	187	36	.4	.8	5.0		70								4.6			.9	23		
	5-15-70	220	46	.3	.0	5.2		78								6.8			.6	30		
	5- 4-70	218	44	.2	.8	5.4		80								6.6			.6	29		
	1-13-70	194	32	.2	2.4	5.1		74								4.8			.6	21		
7																						
	7-12-74	249	35	.5	6.3	4.9		95								5.4			1.5	22	.60	
	6-12-73	230	28	.3	8.4	4.5		88								5.6			2.1	18	.70	
	12-20-72	244	41	.2	.5	.8		88								5.3			.8	20	.80	
	4- 4-72																					
	11-18-71	184	32	.2	.0	4.8		74								2.8			.6	19	.30	
	5-25-71	239	33	.2	8.0	5.7		98								5.2			.9	19		
	10-22-70	194	15	.3	26	3.9		83								3.2			3.7	8.8		
	5-15-70	235	34	.3	.8	5.6		88								5.2			.4	22		
	1-20-70	190	27	.2	.0	5.7		77								4.6			.5	16		

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County for 1970 - 1974 calendar years.

Values in milligrams per liter except where indicated.

(* micrograms per litre)

Sampling Station No.	Date	Alkalinity as $CaCO_3$	Chloride (Cl)	Fluoride (F)	Sulfate (So_4)	Silica ($SSiO_2$)	Arsenic (As) *	Calcium (Ca)	Cadmium (Cd) *	Cobalt (Co) *	Chromium (Cr^{+6})*	Chromium (Cr) *	Copper (Cu)	Iron (Fe)	Lead (Pb) *	Magnesium (Mg)	Manganese (Mn)	Mercury (Hg) *	Potassium (K)	Sodium (Na)	Strontium (Sr)	Zinc (Zn) *
8																						
	6- 7-73	82	320	0.4	81	1.0	1	76	1				0.005	0.04	2	24.0	0.01	3	9.6	180	1.0	10
	9- 8-72	200	120	.3	37	3.7	10	78	0	0	0		.00	.00	0	9.6	.00		1.4	80	1.20	10
	5- 1-72	195	32	.3	27	4.7	10	72	0	0	0		.00	.40	4	3.0	.01	0	2.9	25	0.80	20
	9- 7-71	187	63	.1	26	4.9	0	76	0	0	0		.00	.03	0	4.9	.00	0	4.4	37	.76	60
	5-12-71	237	3,700	.5	480	2.8	10	150	0	0	0		.03	.05	0	250	.01	8	5	2100	2.20	40
	9-28-70	204	26	.2	18	4.7	10	80				0	.01	.04	1	6.0	.01		2.2	16	.82	60
	5-13-70	194	33	.3	22	3.0		83				0	.00	.04	10	3.4	.00		2.4	24	.78	40
	5- 4-70	194	27	.0	21	4.4		85								3.1			2.3	20		
11																						
	7-12-74	183	16	.3	8.1	4.0													.7	11	.63	
	12-11-73	187	18	.2	6.6	4.0		76								6.4			.9	11	.001	
	6-12-73	167	19	.3	12	4.0		68								3.2			.5	14	.60	
	12-20-72	180	18	.2	10	3.4		68								3.0			.5	12	.20	
	4- 4-72	177	16	.3	5.6	3.6		67								3.2			.5	11	.54	
	11-18-71	149	19	.4	7.8	3.6		63								3.2			.5	13	.30	
	5-25-71	70	30	.2	17	4.2		57								3.1			1.2	19		
	10-23-70	180	16	.3	7.2	3.9		71								2.9			.8	10		
	5-10-70	179	21	.2	9.6	3.8		71								3.0			.6	13		
	1-12-70	131	24	.2	7.2	3.1		69								3.0			.4	16		

Table 5 -- Summary of chemical analyses of water samples from selected stations in Dade County for 1970 - 1974 calendar years.

Values in milligrams per liter except where indicated.

(* micrograms per litre)

Sampling Station No.	Date	Alkalinity as $CaCO_3$	Chloride (Cl)	Fluoride (F)	Sulfate (SO_4)	Silica ($SSiO_2$)	Arsenic (As) *	Calcium (Ca)	Cadmium (Cd) *	Cobalt (Co) *	Chromium (Cr^{+6})*	Chromium (Cr) *	Copper (Cu)	Iron (Fe)	Lead (Pb) *	Magnesium (Mg)	Manganese (Mn)	Mercury (Hg) *	Potassium (K)	Sodium (Na)	Strontium (Sr)	Zinc (Zn) *
12																						
	4- 4-72	190	20	.2	50	2.4		91								36			4.2	10	.80	
13																						
	7-11-74	227	53	.2	30	7.1		94								5.4			3.3	38	.82	
	12-10-73		43	.4	24	7.5		93								6.0			3.6	32	.001	
	9-12-73	226	44	.3	24	8.0										5.6			3.0	36	1.00	
	12-20-72	230	43	.2	25	6.6										4.8			2.5	31	.90	
	4- 4-72	230	43	.7	22	6.8		86								6.0			2.9	32	.70	
	11-18-71	226	42	.3	26	6.6		88								1.4			2.4	32	.60	
14																						
	5- 2-73	240	66	.3	1.2	5.0	3	88			0		.00	.19	4	11.0	.00		1.4	42	.80	
	12- 1-72	223	70	.3	0.8	5.5	10	74			0		.00	.44	80	7.6	.20		1.7	33	.72	
	6- 5-72	230	42	.4	2.8	5.2	10	81			0		.01	.18	20	7.2			2.5	26	.80	

Table 6 shows the analyses for ortho plus acid hydrolyzable phosphorus, ammonia nitrogen, nitrite nitrogen, nitrate nitrogen, organic nitrogen, total phosphate, and ortho phosphate. All values in table 6 are listed in elemental form. In 1974 ortho phosphate ranged from 0.000 mg/l at several stations to 0.64 mg/l at Carol City canal (station 2A). Ammonia nitrogen ranged from 0.00 mg/l at two stations to 6.5 mg/l at Carol City Canal at N. W. 37th Avenue (station 2A). Nitrite nitrogen ranged from 0.000 mg/l at several stations to 0.11 mg/l at Canal 103 at S. W. 162nd Avenue (station 39A). Nitrate nitrogen ranged from 0.00 mg/l at about one-third of the stations to 4.6 mg/l in water from well G860A (station 22A) in a populated area of south Dade County. Water from all stations sampled contained nitrogen below the allowable limit.

Pesticides are listed in table 7. During 1974, dieldrin, lindane, 2,4,5-T, silvex, malathion, and diazinon were detected at 7 of the 12 stations sampled. The stations were 2, 6, 8, 13, 14, 15, and 16. All were within permissible limits. Of the twelve stations sampled, PCB's were detected at none.

Table 6. --Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
1 Miami Canal east of Levee 30 (formerly Miami Canal @ Broken Dam)	9-19-74		0.000			0.46	0.000	0.00
	1-17-74		.000			.38	.000	.00
	9-14-73	0.002				.38	.000	.00
	1-17-73	.000				.29	.000	.00
	3-15-72	.000				.30	.000	.00
	11-18-71						.006	.2
	9-20-71	.010				.30	.000	.00
	9-3-71		.007	0.013	1.2	.52	.024	.05
	5-25-71						.003	.4
	5-10-71		.013	.030	1.8	.19	.015	.09
	3-9-71		.003	.010	0.71	.34	.006	.00
	3-1-71	.000				.39	.000	.00
	10-22-70						.003	.3
	9-15-70	.006				.32	.000	.01
		.000				.29	.000	.01
	5-15-70		.007				.006	.3
	5-6-70		.007	.013	1.0	.14	.006	.00
	1-13-70				.01			.00

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
		Values in milligrams per litre						
	9-19-74		0.000			0.24	0.000	0.10
	1-17-74		.000			.31	.000	.10
2 Snake Creek Canal at N. W. 37 Ave.	9-14-73	.003				.43	.000	.10
	1-17-73	.000				.31	.016	.21
	3-15-72	.000				.10	.000	.13
	11-18-71						.006	.5
	9-20-71	.059				.20	.009	.18
	5-25-71						.003	.2
	3-1-71	.000				.10	.000	.22
	10-22-70						.006	.9
	9-15-70	.003				.33	.021	.20
	5-15-70		.007				.006	.2
	1-13-70						.003	.00
2A Carol City Canal @N. W. 37 Ave. nr Carol City Treatment Plant	9-19-74		.120			.34	.10	.56
	1-17-74		.640			6.50	.03	.00
	9-14-73	0.310				1.70	.081	.22
	1-17-73	1.100				4.30	.077	.06
	3-15-72	0.000				0.05	.000	.16
	3-1-71	1.25				1.4	.25	1.1
	9-20-71	2.18				.50	.000	.00
3 Lake in North Miami Beach								
	9-19-74		.000			.06	.000	.00
	1-17-74		.000			.08	.000	.01
	9-14-73	.000				.90	.000	.01
	1-17-73	.000				.06	.000	.000

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
5 Miami Canal above control at N. W. 36 St.								
	9-19-74		0.000			0.16	0.001	0.35
	1-17-74		.000			.86	.000	.01
	9-14-73	.000				.09	.000	.01
	7-26-73		..010	.010	2.10	.32	.04	.22
	4-24-73		.015	.016	1.26	.05	.010	.10
	1-26-73		.010	.017	1.20	.05	.055	.20
	12-26-72		.007	.017	.95	.71	.030	.11
	10-31-72		.043	.050	1.20	.10	.007	.00
	9-8-72		.020	.020	1.20	1.00	.017	.00
	5-1-72		.008	.020	.99	.06	.007	.14
	3-15-72	.000				.04	.000	.33
	12-29-71		.006	.023	1.70	.50	.13	.2
	9-27-71		.023	.030	1.60	.09	.036	.09
	9-20-71	.020				.70	.009	.07
	4-29-71		.007	.033	1.4	.09	.009	.1
	3-9-71		.007	.016	.54	.04	.006	.2
	3-1-71	.000				.00	.000	.22
	1-25-71		.003	.046	.78	.08	.018	.3
	9-28-70		.030	.046	.04	.74	.012	.00
	9-15-70	.006				.87	.009	.04
	8-5-70		.016	.036	.63	.38	.012	.12
	6-3-70						.003	.6
	5-5-70		.023	.033	1.10	.12	.009	.05

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
5A Miami River @ Brickell Ave.	9-19-74		0.000			0.19	0.000	0.09
	1-17-74		.040				.000	.16
	9-14-73	0.015				.67	.013	.15
	1-17-73	.000				.32	.016	.12
	3-15-72	.092				.32	.000	.00
	9-20-71	.033				.55	.009	.10
	3-1-71	.033				.20	.000	.05
5B Miami River @ N. W. 12 Ave.	9-19-74		.010			.37	.000	.18
	1-17-74		.010			.43	.000	.18
	9-14-73	.014				.47	.013	.20
	1-17-73	.022				.42	.240	.16
	3-15-72	.074				.23	.000	.08
	9-20-71	.023				.65	.009	.07
	3-1-71	.033				.20	.000	.00
5C Miami Canal @ N. W. 27 Ave.	9-19-74		.005			.30	.000	.20
	1-17-74		.000			.39	.000	.21
	9-14-73	.013				.44	.000	.05
	1-17-73	.042				.31	.011	.10
	3-15-72	.042				.34	.033	.19
	9-20-71	.023				.63	.009	.20
	3-1-71	.033				.20	.000	.10

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
5D Miami Canal below control at N. W. 36 St.	9-19-74		0.00			0.21	0.010	0.32
	1-17-74		.01			-	.000	.01
	9-14-73	0.006				.82	.000	.05
	1-17-73	.000				.54	.037	.12
	3-15-72	.077				.30	.000	.21
	9-20-71	.013				.82	.009	.06
	3-1-71	.050				.30	.000	.20
5E Miami Canal @ Palmetto Bypass	9-19-74		.003			.42	.000	.008
	1-17-74		.000			-	.000	.05
	9-14-73	.002				.35	.000	.05
	1-17-73	.000				.32	.000	.02
	3-15-72	.000				.10	.000	.13
	9-20-71	.016				.35	.000	.02
	3-1-71	.016				.20	.000	.05
5F Miami Canal @ N. W. 103 St.	9-19-74		.000			.44	.000	.80
	1-17-74		.003			.50	.000	.01
	9-14-73	.003				.34	.000	.01
	1-17-73	.028				.38	.006	.00
	3-15-72	.000				.12	.015	.07
	9-20-71	.023				.25	.000	.03
	3-1-71	.000				.30	.000	.00

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
6 Tamiami Canal nr Coral Gables	9-19-74		0.01			0.27	.000	.07
	1-17-74		.02			.45	.000	.08
	9-14-73	.016				.34	.006	.06
	1-15-73	.000				.12	.032	.20
	3-15-72	.000				.14	.010	.14
	11-18-71						.006	.6
	9-20-71	.020				.27	.000	.01
	5-25-71						.006	.2
	5-3-71		0.013	0.033	1.3	.18	.033	.2
	3-1-71	.000				.45	.000	.00
	10-23-70						.003	.5
	9-15-70	.016				.40	.000	.03
	5-15-70		.003				.000	.4
	5-4-70		.003	.016	0.7	.29	.006	.02
	1-13-70							.1
6A Tamiami Canal @ Snapper Creek Canal	9-19-74		.000			.49	.000	.12
	1-17-74		.080			.57	.030	.23
	9-14-73	.016				.34	.006	.06
	1-15-73	.000				.12	.032	.20
	3-15-72	.230				.80	.000	.17
	9-20-71	.003				.40	.000	.00
	3-1-71	.000				.45	.000	.00
6B Tamiami Canal N. W. 147 Ave.	9-19-74		.030			1.10	.000	.00
	1-17-74		.010			.57	.000	.00
	9-14-73	.001				.51	.000	.04
	1-15-73	.000				.14	.000	.00
6C Bird Road Cana N. W. 147 Ave.	9-19-74		.000			.88	.000	.00
	1-17-74		.000			.56	.000	.03
	1-15-73	.000				.58	.000	.00

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
7 Black Creek Canal @ S. R. 27 nr Richmor Heights	9-19-74		0.000			0.89	0.000	0.00
	1-17-74		.000			1.1	.000	.00
	9-14-73	0.001				.40	.000	.01
	1-15-73	.000				.94	.000	.00
	3-15-72	.000				1.00	.000	.02
	11-18-71						.051	.02
	9-20-71	.007				.35	.000	.05
	5-25-71						.003	.6
	3-1-71	.000				.80	.000	.00
	10-22-70						.003	.7
	9-15-70	.000				.59	.000	.01
	5-15-70						.000	.8
	1-12-70						.003	.4
7A Black Creek C Eureka Drive	9-19-74		.000			.49	.000	.00
	1-17-74		.000			1.10	.000	.00
	9-14-73	.001				.22	.000	.19
	1-15-73	.000				.76	.000	.01
7B Cutler Drain @ SW 137 Ave.	9-19-74		.000				.000	.18
	1-17-74		.000				.000	.00
	9-14-73	.000				.03	.000	.39
	1-15-73	.000				.04	.000	.01

Table 6. (Cont'd)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
8 Black Creek Canal @ S-21 nr. Goulds	9-19-74		0.180			0.66	0.040	0.19
	1-17-74		.220			.72	.080	.64
	9-15-73	0.001				.40	.000	.01
	6-7-73					.10	.10	.00
	1-15-73	.000	0.00	0.12	0.35	.94	.000	.00
	9-8-72		.75	.85	.44	.18	.025	.51
	5-1-72		.45	.50	.67	.38	.052	.78
	3-15-72	.920				.15	.055	.72
	1-3-72		1.30	1.40	.51	.16	.000	.00
	9-20-71	.15				.08	.021	.5
	9-7-71		.33	.36	.58	.43	.021	.2
	5-12-71		1.48	1.48	1.1	.34	.018	.07
	3-1-71	2.38				.20	.039	1.3
	9-28-70		.40	.40	.08	.34	.042	.3
	9-15-70	.79				1.0	.048	.25
	5-13-70		1.22	1.29	.68	.11	.036	.6
	5-4-70		1.22	1.22	.85	.08	.036	.8
8A Biscayne Bay @ Black Creek C	9-19-74		.190			.55	.040	.13
	1-17-74		.220			.55	.050	.34
	1-15-73	.000				.02	.000	.00
9 Canal 102 above S-21-A	9-19-74		.000			.04	.010	.14
	1-17-74		.010			.25	.000	1.8
	9-14-73	.001				.02	.000	2.1
	1-15-73	.000				.04	.001	1.70
	3-15-72	.000				.06	.000	.92
	9-20-71	.000				.03	.009	.81
	3-1-71	.000				.10	.000	.30
	9-15-70	.000				.03	.009	.77

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
9A Military Canal above S-20G	9-19-74		0.140			0.61	0.000	0.06
	1-17-74		.530				.050	.31
	9-14-73	0.42				1.9	.023	.11
	1-15-73	1.30				.14	.050	.30
	3-15-72	2.79				2.10	.140	.52
	9-20-71	1.62				.32	.069	2.2
11 Levee 31 (W) Canal @S.R. 27	9-19-75		.000			.02	.000	.07
	1-17-74		.000			.07	.000	.13
	9-14-73	.001				.00	.000	.00
	1-15-73	.000				.04	.000	.01
	3-15-72	.000				.05	.000	.04
	11-18-71						.006	.1
	9-20-71	.033				.05	.009	.07
	5-25-71						.003	.09
	3-1-71	.000				.00	.000	.05
	10-23-70						.003	.1
	9-15-70	.000				.05	.000	.04
	5-10-70		.000				.000	.1
	1-12-70						.003	.00
11A Taylor Slough @ S.R. 27	9-19-74		.000			.08	.000	.00
	1-17-74		.010			.18	.000	.03
	9-14-73	.001				.00	.000	.00
	1-15-73	.000				.04	.000	.01
11B L-31 (W) Canal E.N. Park Boundary	9-19-74		.000			.21	.000	.01
	1-17-74		-			-	-	-
	1-15-73	.000				.24	.000	.04

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
12 U.S. Navy Well #7 @ Florida City (raw water)								
	9-19-74		-			-	-	-
	1-17-74		-			-	-	-
	9-14-73	0.002				0.04	0.000	0.00
	1-15-73	.000				.02	.000	.00
	3-15-72	.000				.05	.000	.00
	9-20-71	.000				.04	.000	.00
	3-1-71	.000				.10	.000	.00
	9-15-70	.006				.40	.009	.00
12A North End of Canal 109								
	9-19-74		.000			.15	.000	.00
	1-17-74		.000			.37	.000	.00
	9-14-73	.004				.15	.000	.00
	1-15-73	.015				.41	.000	.00
13 Preston Water Plant @ Hialeah (raw water)								
	9-19-74		.020			1.00	.000	.59
	1-17-74		.020			1.20	.000	.00
	9-14-73	.019				1.00	.000	.00
	1-15-73	.000				1.10	.000	.00
	3-15-72	.000				.05	.000	.25
	11-18-71						.006	.7
	9-20-71	.023				.70	.000	.00
	3-1-71	.016				1.0	.000	.05
	9-15-70	.000				.94	.000	.01

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
		Values in milligrams per litre						
14 Miami Canal @ Hialeah Water Plant	9-19-74		0.030			0.28	0.000	0.21
	1-17-74		.000			.49	.000	.32
	9-14-73	0.005				.93	.000	.04
	1-17-73	.000				.32	.000	.22
	6-5-72		.020	0.027	1.60	.67	.048	.24
	3-15-72	.000				.06	.000	.33
	9-20-71	.000				.70	.009	.05
	3-1-71	.000				.05	.000	.20
	9-15-70	.000				.87	.009	.04
15 Alexander Orr Water Plant nr South Miami (raw water)	9-19-74		.000			.10	-	-
	1-17-74		.000			.04	-	-
	9-14-73	.002				.07	.000	.55
	9-12-73	.002				.18	.000	.53
	1-17-73	.000				.16	.000	.13
	3-15-72	.000				.04	.000	.12
	9-20-71	.007				.05	.000	.38
	3-1-71	.000				.10	.021	.13
	9-15-70	.000				.10	.009	.19
15A Landlocked Pond nr S. W. 60 St. and 70 Ave.	9-19-74	-				-	-	-
	1-17-74	.000				.12	.000	.00
	9-14-73	.002				.07	.000	.00
	1-17-73	.000				.01	.000	.00
	3-15-72	.000				.02	.000	.00
	9-20-71	.000				.08	.000	.03
	3-1-71	.000				.00	.000	.00
15B Pond @ 6055	9-19-74		-			-	-	-
	1-17-74		.000			.14	.000	.00
	9-14-73	.003				.09	.000	.00
	1-17-73	.000				.10	.000	.00
	3-15-72	.000				.12	.000	.00
	9-20-71	.000				.05	.000	.04

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Sampling station no. and name	Date	Values in milligrams per litre: Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
15C Pond @ 6025 S. W. 72 Ave.	9-19-74		-			-	-	-
	1-17-74		0.000			0.07	-	0.00
	9-14-73	0.002				.06	0.000	.00
	1-17-73	.000				.05	.000	.00
	3-15-72	.000				.04	.000	.00
	9-20-71	.000				.03	.000	.00
15D Blue Lake @ S. W. nr 74 Ave.	9-19-74		-			-	-	-
	1-17-74		.000			-	.020	.01
	9-14-73	.001				.08	.000	.00
	1-17-73	.000				.08	.000	.04
	3-15-72	.000				.10	.000	.18
	9-20-71	.010				.10	.000	.04
15E Maule Lake nr S. W. 56 St. and 74 Ave.	9-19-74		-			-	-	-
	1-17-74		.000			-	.000	.00
	9-14-73	.002				.04	.000	.00
	1-17-73	.007				.04	.000	.04
	3-15-72	.000				.05	.000	.00
	9-20-71	.007				.03	.000	.04
15F Lake Caroline nr S. W. 56 St. and 82 Ave.	9-19-74		-			-	-	-
	1-17-74		.000			-	.000	.05
	9-14-73	.002				.18	.000	.12
	1-17-73	.000				.11	.000	.02
	3-15-72	.000				.03	.000	.00
	9-20-71	.000				.02	.000	.01
15G Lake Cataline nr S. W. 56 St. and 82 Ave.	9-19-74		-			-	-	-
	1-17-74		.000			-	.000	.03
	9-14-73	.001				.03	.000	.00
	1-17-73	.000				.07	.000	.02
	3-15-72	.000				.05	.000	.06
	9-20-71	.000				.05	.000	.00

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
16 Snapper Creek @ S. W. 87 Ave.	9-19-74		0.060			0.88	0.000	0.09
	1-17-74		.170			.80	.000	.04
	9-14-73	0.035				.24	.000	.02
	1-15-73	.080				.68	.020	.08
	3-15-72	.551				.90	.190	.13
	9-20-71	.16				.50	.000	.02
	3-1-71	.35				3.0	.099	.10
	9-15-70	.19				.70	.000	.02
16A Snapper Creek Canal @ Miller Road	9-19-74		.100			1.10	.000	.10
	1-17-74		.070			.90	.000	.02
	9-14-73	.044				.58	.000	.03
	1-15-73	.071				.56	.010	.09
	3-15-72	.429				1.09	.000	.07
	9-20-71	.14				.50	.000	.03
	3-1-71	.50				1.0	.009	.11
16B Snapper Creek Canal @ S. W. 112 Ave.	9-19-74		.010			.14	.000	.00
	1-17-74		.100			.89	.000	.13
	9-14-73	.003				.04	.000	.01
	1-15-73	.500				.21	.010	.08
	3-15-72	.583				.95	.065	.14
	9-20-71	.10				.06	.009	.00
	3-1-71	.73				1.4	.021	.08
16C Snapper Creek C @ SW 97 Ave	9-19-74	-				-	-	-
	1-17-74	-				-	-	-
	9-14-73							
	1-15-73	.010				.62	.020	.09

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
17 Canal 102 @ S. R. 27	9-19-74		0.000			0.00	0.000	0.00
	1-17-74		.000			.00	.000	.44
	9-14-73	0.000				.09	.013	.13
	1-15-73	.000				.62	.020	.09
	3-15-72	.000				.08	.000	.80
	9-20-71	.016				.05	.021	.48
	3-1-71	.000				.10	.000	.90
	9-15-71	.000				.03	.000	.00
17A Homestead AF Base Water Plant (Raw Water)	9-19-74		.000			.03	.000	2.30
	1-17-74		.000			.02	.000	3.10
	9-14-73							
	1-15-73	.000				.04	.000	2.30
17B L-31 (W) Canal @ Canal 102								
	9-19-74		.000			.17	.000	.03
	1-17-74		.010			.07	.000	.45
	9-14-73	.000				.09	.000	.06
18 Canal 103 @ S.R. 27	1-15-73	.000				.20	.000	.03
	9-19-74		.000			.05	.010	.50
	1-17-74		.000			.11	.000	.07
	9-14-73	.000				.07	.013	.68
	1-15-73	.000				.04	.008	.47
	3-15-72	.000				.04	.000	.38
	9-20-71	.010				.05	.021	.35
	3-1-71	.000				.05	.000	.30
	9-15-70	.000				.07	.009	.33

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
18A L-31 (W) Canal @ Canal 103	9-19-74		0.000			0.10	0.000	0.03
	1-17-74		.000			.09	.000	.01
	9-14-73	0.001				.13	.000	.06
	1-15-73	.000				.15	.000	.04
18B Canal 113 @ East End	9-19-74		.000			.04	.000	.01
	1-17-74		.000			.11	.000	.07
	9-14-73	.000				.07	.000	.00
	1-15-73	.000				.01	.000	.00
19 Canal 111 @ S. R. 27	9-19-74		.000			.14	.000	.03
	1-17-74		.000			.06	.000	.01
	9-14-73	.001				.06	.000	.04
	1-15-73	.000				.03	.006	.08
	5-15-72	.000				.05	.000	.00
	9-20-71	.010				.03	.000	.01
	3-1-71	.000				.00	.000	.00
	9-15-70	.000				.04	.000	.02

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
		Values in milligrams per litre						
19A Canal 111 @ S-18C	9-19-74		0.000			0.00	0.000	0.03
	1-17-74		-			-	-	-
	1-15-73	0.000				.01	.000	.00
20 Canal 11 above S-197	9-19-74		.000			.04	.000	.00
	1-17-74		.000			.18	.000	.03
	9-14-73	.002				.12	.000	.02
	1-15-73	.000				.06	.000	.01
	3-15-72	.000				.04	.000	.00
	9-20-71	.000				.28	.000	.06
	3-1-71	.000				.05	.000	.05
	9-15-70	.000				.09	.000	.04
20A Little Card Sound @ Card Sound Road	9-19-74		.000			.021	.000	.03
	1-17-74		.070			.21	.000	.05
	9-14-73	.010				.15	.000	.01
	1-15-73	.006				.06	.000	.03
20B Long Sound @ US1 Dade-Monroe Cnty Line	9-19-74		.020			.38	.000	.00
	1-17-74		.010			.10	.000	.03
	9-14-73	.004				.17	.000	.04
	1-15-73	.000				.11	.000	.05
20C Biscayne Bay @ Turtle Point	1-15-73	.030				.02	.000	.02

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
21 Canal 103 above S-20F	9-19-74		0.000			0.04	0.000	0.09
	1-17-74		.010			.14	.000	.82
	9-14-73	0.002				.08	.010	.96
	1-15-73	.000				.02	.008	.86
	3-15-72	.000				.06	.017	.79
	9-20-71	.010				.05	.009	.85
	3-1-71	.000				.05	.000	.05
	9-15-70	.000				.06	.009	.48
21A North Canal @ Levee 31	9-19-74		.000			.05	.000	.79
	1-17-74		.020			.10	.000	.53
	9-14-73	.001				.07	.008	.79
	1-15-73	.000				.04	.000	1.40
	3-15-72	.000				.05	.000	1.10
	9-20-71	.007				.06	.009	1.40
21B Florida City Canal @ Levee 31	9-19-74		.010			.36	.000	.01
	1-17-74		.010			.08	.000	.60
	9-14-73	.001				.04	.000	.78
	1-15-73	.000				.05	.008	.73
	3-15-72	.000				.07	.007	.46
	9-20-71	.007				.06	.009	1.20
21C Biscayne Bay @ Turkey Point	9-19-74		.010			.25	.000	.02
	1-17-74		.010			.08	.000	.03
	9-14-73	.010				.16	.000	.02
	1-15-73	.045				.02	.000	.00
21D Florida City Canal @ Tallahassee Rd. Canal	9-19-74		.000			.05	.000	.04
	1-17-74		.010			.07	.020	.98
	9-14-73	.003				.10	.000	.07
	1-15-73	.000				.04	.010	.84

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
21E Model Land Canal @ L-31 (E)	9-19-74		0.000			0.21	0.000	0.00
	1-17-74		.030			.31	.000	.10
	9-14-73	0.003				.17	.000	.00
	1-15-73	.000				.25	.000	.04
21F Card Sound Rd Canal @ L-31 E	9-19-74		.000					
	1-17-74		.010					
	9-14-73	.002				.26	.000	.00
	1-15-73	.000				.18	.000	.04
22 Cutler Drain (Canal 100) above S-123	9-19-74		.000					
	1-17-74		.000					
	9-14-73	.003				.06	.000	.27
	1-15-73	.000				.02	.000	.00
	3-15-72	.000				.04	.000	.01
	9-20-71	.020				.05	.000	.12
	3-1-71	.000				.00	.000	.05
	9-15-70	.000				.10	.009	.01
22A Well G 860A	9-19-74		.000			.02	.000	4.60
	1-17-74		-				-	-
	1-17-74	.000				.03	.000	4.60
	9-14-73							
	1-15-73	.000				.07	.000	3.30
	3-15-72	.000				.12	.000	6.40
	9-20-71	.007				.06	.000	3.70
22B Well G 580C	1-17-74		-				-	-
	9-14-73	.010				.06	.000	.13
	1-15-73	.045				.04	.000	.08
22C Biscayne Bay @ Cutler Drain	9-19-74		.000			.05	.020	1.00
	1-17-74		.010			.06	.000	.04
	9-14-73							
	1-15-73	.060				.04	.000	.26
	3-15-72	.000				.03	.000	.38

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
23 Snapper Creek Canal above S-22	9-19-74		0.040			0.59	0.010	0.11
	1-17-74		.170			1.50	.000	.17
	9-14-73	0.045				.45	.000	.10
	1-15-73	.072				.49	.052	.19
	3-15-72	.276				.13	.037	.29
	3-1-71	1.250				1.40	.160	1.10
	9-15-70	.240				.93	.000	.02
23A Biscayne Bay @ Snapper Creek Canal	9-19-74	-	-			-	-	-
	1-17-74	-	-			-	-	-
	1-15-73	.078				.61	.026	.15
24 Coral Gables Canal @ S. W. 42 Ave.	9-19-74		.020			.16	.000	.04
	1-17-74		.050			.10	.000	.48
	9-14-73							
	1-15-73							
	3-15-72	.046				.22	.000	.08
	9-20-71	.220				.28	.021	.60
	3-1-71	.082				.15	.000	.40
	9-15-70	.066				.21	.009	.05
24A Coral Gables Canal @ S. W. 57 Ave.	9-17-74		.030			.36	.000	.07
	1-17-74		.020			.10	.000	.03
	9-14-73	.023				.08	.000	.09
	1-15-73	.050				.12	.004	.43
	3-15-72	.000				.08	.000	.00
	9-20-71	.820				1.30	.021	.10
	3-1-71	.590				.10	.009	.94
	9-15-70	1.320				4.50	.090	.33
24B Coral Gables @ S. W. 24 St.	9-19-74		.020			.39	.000	.05
	1-17-74		.080			.25	.000	.09
	9-14-73	.047				.09	.000	
	1-15-73	.260				.02	.000	
	3-15-72	.071				.08	.000	.08
	9-20-71	.500				.80	.021	.09
	3-1-71	.990				1.20	.190	.76

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
24C Coral Gables @ S. W. 8 St.	9-19-74		0.010			0.32	0.000	0.00
	1-17-74		.040			.24	.000	.10
	9-14-73	0.019				.12	.000	.04
	1-15-73	.000				.19	.030	.23
	3-15-72	.000				.10	.010	.17
	9-20-71	.000				.30	.000	.03
	3-1-71	.016				.30	.000	.00
24D Biscayne Bay @ Gables Canal	9-19-74		.010			.14	.000	.02
	1-17-74		.020			.12	.000	.13
	9-14-73	.017				.09	.000	.03
	1-15-73	.060				.04	.000	.00
25 Hialeah Water Plant @ Hialeah (raw water)	9-19-74		.020			.31	.000	.01
	1-17-74		.020			.82	.000	.01
	9-14-73	.017				.92	.000	.28
	1-15-73	.000				.72	.000	.00
	3-15-72	.000				.70	.000	.02
	9-20-71	.007				.70	.000	.03
	3-1-71	.000				.70	.000	.00
	9-15-70	.000				.68	.000	.00
26 Little River Canal above S-27	9-19-74		.010			.26	.000	.11
	1-17-74		.080			.50	.000	.00
	9-14-73	.037				.51	.000	.06
	1-15-73	.056				.77	.016	.14
	3-15-72	.037				.94	.000	.00
	9-20-71	.046				.48	.009	.07
	3-1-71	.28				.10	.000	.00
	9-15-70	.096				.45	.000	.03
26A Biscayne Bay @ MacArthur Causeway north side	9-19-74		.010			.17	.000	.02
	1-17-74		.020			.24	.000	.04
	9-14-73	.013				.14	.000	.03
	1-15-73	.028				.05	.000	.00

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
26B Biscayne Bay @ MacArthur Causeway south side	9-19-74		0.010			0.15	0.010	0.05
	1-17-74		.010			.22	.000	.04
	9-14-73	0.013				.11	.000	.13
	1-15-73	.028				.05	.002	.00
27 Biscayne Canal above S-28	9-19-74		.020			.82	.000	.10
	1-17-74		.030			.25	.000	.09
	9-14-73	.035				.24	.000	.09
	1-15-73	.042				.13	.002	.10
	3-15-72	.077				.07	.000	.02
	9-20-71	.066				.25	.009	.07
	3-1-71	.066				.10	.000	.05
	9-15-70	.090				.21	.009	.09
28 Snake Creek Canal above S-29	9-19-74		.020			.30	.030	.15
	1-17-74		.090			.45	.030	.27
	9-14-73	.047				.22	.000	2.80
	1-15-73	.070				.24	.057	.42
	3-15-72	.135				.04	.000	.00
	9-15-71	.260				.25	.11	.39
	3-1-71	.530				.10	.039	1.10
	9-15-70	.230				.45	.048	.15
28A Snake Creek Canal @ U.S. 441	9-19-74		.040			.35	.020	.22
	1-17-74		.070			.70	.020	.14
	9-14-73	.160				.93	.030	.22
	1-15-73	.084				.34	.044	.37
	3-15-72	.337				.20	.018	.44
	9-20-71	.360				.62	.039	.26
	3-1-171	1.060				1.20	.090	.86

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
29 Snake Creek Canal @ N. W. 67 Ave.	9-19-74		0.000			0.28	0.000	0.05
	1-17-74		.030			.21	.010	.49
	9-14-73	0.003				.34	.000	.06
	1-15-73	.000				.26	.004	.16
	3-15-72	.000				.08	.000	.17
	9-20-71	.180				.35	.000	.01
	3-1-71	.000				.20	.009	.24
	9-15-70	.000				.40	.009	.16
30 Biscayne Canal @ N. W. 57 Ave.	9-19-74		.010			.23	.000	.07
	1-17-74		.020			.18	.010	.19
	9-14-73	.028				.20	.022	.49
	1-15-73	.560				.09	.033	.35
	3-15-72	.736				.05	.060	.79
	9-20-71	.020				.09	.009	.12
	3-1-71	.540				.10	.021	.20
	9-15-70	.160				.45	.009	.09
30A Opa Locka Canal east of N. W. 47 Ave.	9-19-74		.000			.29	.010	.15
	1-17-74		.010			.20	.000	.09
	9-14-73	.130				.75	.008	.17
	1-15-73	.000				.23	.000	.19
	3-15-72	.000				.05	.000	.01
	9-20-71	.010				.07	.000	.21
	3-1-71	.000				.00	.000	.00
	9-15-70	.000				.17	.000	.17
30B Red Road Canal west of N. W. 57 Ave.	9-19-74		.030			.58	.000	.16
	1-17-74		.030			.42	.000	.24
	9-14-73	.004				.17	.000	.08
	1-15-73	.034				.22	.006	.30
	3-15-72	.000				.45	.000	.14
	9-20-71	.007				.06	.000	.00
	3-1-71	2.770				.50	.078	1.90

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
31 Little River Canal @ N. W. 57 Ave.	9-19-74		0.000			0.64	0.020	0.00
	1-17-74		.030			.50	.010	.17
	9-14-73	0.008				.46	.000	.08
	1-15-73	.000				.52	.006	.07
	3-15-72	.000				.20	.000	.19
	9-20-71	.010				.50	.009	.05
	3-1-71	.000				.35	.000	.00
	9-15-70	.000				.51	.009	.03
31A Tamiami Canal nr Wayside Park west of Levee 30	9-19-74		.000			.58	.000	.01
	1-17-74		.000			.15	.000	.17
	9-14-73	.004				.37	.000	.06
	1-15-73	.000				.38	.040	.31
	3-15-72	.000				.14	.000	.26
	9-20-71	.016				.10	.000	.00
	3-1-71	.000				.40	.009	.24
	9-15-70	.000				.90	.000	.01
31B L-31 Canal 5 miles south of U.S. 41	9-1-74		.000			1.00	.000	.01
	1-17-74		.010			1.20	.000	.00
	9-14-73	.001				.49	.000	.00
	1-15-73	.000				.10	.000	.00
	3-15-72	.000				.04	.000	.04
31C Tamiami Canal mid point bet. L-30 and L-67	9-19-74		.010			1.30	.000	.00
	1-17-74		.000			.26	.000	.06
	9-14-73	.003				.90	.000	.00
	1-15-73	.000				.68	.000	.00
31D S 12 E (Above)	9-19-74		.000			.17	.000	.01
	1-17-74		.000			.35	.000	.30
	9-14-73	.008				.36	.000	.01
	1-15-73	.000				.04	.000	.06

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
		Values in milligrams per litre						
31E - S 12 D (Above)	9-19-74		0.010			0.26	0.000	0.02
	1-17-74		.000			.33	.010	.31
	9-14-73	0.002				.40	.000	.01
	1-15-73	.000				.06	.000	.07
31F - S 12 C (Above)	9-19-74		.000			.24	.000	.00
	1-17-74		.000			.32	.000	.02
	9-14-73	.002				.40	.000	.01
	1-15-73	.000				.17	.000	.02
31G - S 12 B (Above)	9-19-74		.000			.21	.000	.01
	1-17-74		.000			.18	.000	.02
	9-14-73	.003				.36	.000	.01
	1-15-73	.015				.28	.000	.02
31H - S 12 A (Above)	9-19-74		.000			.13	.000	.00
	1-17-74		.000			.91	.000	.00
	9-14-73	.003				.36	.000	.00
	1-15-73	.000				.36	.000	.03
32 Canal 100C @ U.S. 1	9-19-74		.000			.04	.000	.02
	1-17-74		.010			.10	.000	.00
	9-14-73	.002				.08	.000	.00
	1-15-73	.000				.08	.000	.01
	3-15-72	.000				.27	.000	.06
	9-20-71	.023				.05	.009	.59

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Sampling station no. and name	Date	Values in milligrams per litre: Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
32A Canal 100 A @ U. S. 1	9-19-74		0.000			0.11	0.000	0.00
	1-17-74		.000			.06	.000	.00
	9-14-73	0.001				.26	.000	.00
	1-15-73	.000				.04	.000	.00
33 Canal 100 @ U. S. 1	9-19-74		.000			.05	.000	.01
	1-17-74		.010			.08	.000	.07
	9-14-73	.000				.06	.000	.35
	1-15-73	.000				.03	.000	.05
	3-15-72	.000				.03	.000	.00
	9-20-71	.003				.04	.000	.00
34 Canal 1 @ S-149	9-19-74		.000			.01	.000	.25
	1-17-74		.000			.04	.000	.37
	9-14-73	.007				.03	.000	.49
	1-15-73	.000				1.00	.000	.55
	3-15-72	.000				.02	.000	.41
	9-20-71	.000				.02	.000	.76
35 Canal 1 @ U. S. 1	9-19-74		.000			.27	.030	.97
	1-17-74		.510			2.40	.007	1.20
	9-14-73	.028				.19	.000	.45
	1-15-73	.000				1.00	.200	.80
	3-15-72	2.269				3.10	.220	.22
	9-20-71	.020				.22	.009	.07
36 Canal 102 N @ U. S. 1	9-19-74		.000			.02	.000	.79
	1-17-74		.000			.04	.000	.88
	9-14-73	.000				.05	.000	1.50
	1-15-73	.060				.04	.000	.61
	3-15-72	.000				.07	.000	.35
	9-20-71	.000				.03	.000	.32

Table 6. (Cont'd.)--Summary of nutrient analyses of water samples in Dade County for 1970-74 calendar years.

Values in milligrams per litre

Sampling station no. and name	Date	Ortho plus acid hydrolyzable phosphorus as P	Ortho phosphate as P	Total phosphate as P	Organic nitrogen	Ammonia nitrogen as N	Nitrite nitrogen as N	Nitrate nitrogen as N
37 Canal 102 @ U. S. 1	9-19-74		0.000			0.04	0.000	1.60
	1-17-74		.000			.03	.000	2.40
	9-14-73	0.002				.06	.014	0.17
	1-15-73	.600				.03	.000	2.50
	3-15-73	.000				.03	.000	1.80
	9-20-71	.020				.02	.000	.94
Canal 103 U. S. 1	9-19-74		.000			.04	.000	3.20
	1-17-74		.000			.04	.000	3.70
	9-14-73	.000				.05	.005	1.70
	1-15-73	.000				.03	.003	3.30
	3-15-73	.000				.05	.000	.36
	9-20-71	.000				.05	.000	3.10
38A Canal 103 @ SW 137 Ave.	9-19-74		.000			.03	.000	1.00
	1-17-74		.020			.04	.000	1.80
	9-14-73	.001				.06	.000	3.30
	1-15-73	.000				.02	.000	1.60
39 Canal 103 @ U. S. 1	9-19-74		.000			.02	.000	1.30
	1-17-74		.000			.03	.000	1.30
	9-14-73	.004				.06	.000	1.20
	1-15-73	.015				.02	.000	1.10
	3-15-73	.000				.04	.000	1.10
	9-20-71	.000				.05	.000	1.00
39A Canal 103 @ SW 162 Ave.	9-19-74		-			-	-	-
	1-17-74		.240			.45	.110	2.30
	9-14-73	.073				.05	.018	2.00
	1-15-73	.460				.04	.032	2.60
39B Florida City Canal SW 177 Ave.	9-19-74		.000			.25	.000	.01
	1-17-74		.000			.14	.000	.19
	9-14-73	.001				.08	.000	.07
	1-15-73	.000				.14	.000	.00

Table 7. -- Summary of pesticide analyses of water samples at selected sites in Dade County for 1970-1974 calendar years.

Values for water samples in micrograms per litre

Sampling Station No. & Name	Date	Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Lindane	2, 4-D	2, 4, 5-T	Silvex	Methyl Parathion	Malathion	Parathion	Diazinon	Ethion	Trithion	Methyl Trithion	Chlordane	PCB
1 Miami Canal east of Levee 30 (formerly Miami Canal at Broken Dam)	7-11-74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12-10-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00				.00		
	11- 2-70		.00		.01	.00	.00			.00	.00	.00									.2
	1-13-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
2 Snake Creek Canal at N.W. 37 Avenue	7-11-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
	12-10-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00		.00		
	11- 2-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01									
	1-13-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
6 Tamiami Canal nr Coral Gables	7-12-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00
	12-11-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00		trace		
	11- 2-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
	1-13-70	.00	.00	.00	trace	.00	.00	.00	.00	.00	.00	.00									

Table 7. --(Cont'd.)Summary of pesticide analyses of water samples at selected sites in Dade County for 1970-1974 calendar years.

Values for water samples in micrograms per litre

Sampling Station No. & Name	Date	Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Lindane	2, 4-D	2, 4, 5-T	Silvex	Methyl Parathion	Malathion	Parathion	Diazinon	Ethion	Trithion	Methyl Trithion	Chlordane	PCB
7 Black Creek at S.R. 27 nr Richmond Heights	7-12-74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12-11-73	.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-2- 70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					.00		.00		
	1-12-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
8 Black Creek at S-21 nr Goulds	7-12-74	.00	.00	.00	.00	<.01	.00	.00	<.01	.00	.12	.01	.00	.06	.00	.06	.00	.00	.00	.0	.0
	12-11-73	.00	.00	.00	.00	.01	.00	.00	.00	.00	.05	.00	.00	.00	.00	.02	.00	.00	.00		
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
9 Canal 102 above S-21A	7-12-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	12-11-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0

Table 7. --(Cont'd.) Summary of pesticide analyses of water samples at selected sites in Dade County for 1970-1974 calendar years.

Values for water samples in micrograms per litre

Sampling Station No. & Name	Date	Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Lindane	2, 4-D	2, 4, 5-T	Silvex	Methyl Parathion	Malathion	Parathion	Diazinon	Ethion	Trithion	Methyl Trithion	Chlor dane	PCB
11 Levee 31 (w) Canal at S.R. 27	7-12-74	0.00	0.00	0.00	0.00	0.00	0.00*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12-11-73									.00	.00	.00									
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.06	.00	.00	.00		.00		.00		
	11- 2-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
	1-12-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
12 U.S. Navy well #7 at Florida City (raw water)																					
	12-11-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00		.00		
	11- 2-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
	1-12-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
13 Preston Water Plant at Hialeah (raw water)	7-11-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
	12-10-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	00	.00	.00	.00	.00	.00	.00	.0	.0
	11- 2-70	.00	trace	.00	.00	.00	.00	.00	.00	.00	.00	.01									

Table 7. --(Cont'd.) Summary of pesticide analyses of water samples at selected sites in Dade County for 1970-1974 calendar years.

Values for water samples in micrograms per litre

Sampling Station No. & Name	Date	Aldrin	DDD	DDE	DDT	Dieldrin	Endrin	Heptachlor	Lindane	2, 4-D	2, 4, 5-T	Silvex	Methyl Parathion	Malathion	Parathion	Diazinon	Ethion	Trithion	Methyl Trithion	Chlordane	PCB
14 Miami Canal at Hialeah Water Plant	7-11-74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12-10-73	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.17	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11- 2-70	.00	.00	.00		.00	.00	.00	.00	.00	.00	.01									
15 Alexander Orr Water Plant nr South Miami (raw water)	7-12-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
	12-11-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	trace	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11- 2-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01									
16 Snapper Creek Canal at S.W. 87 Avenue	7-12-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.02	.00	.00	.00	.00	.00
	12-11-73	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00	.00	.00	.0	.0
	12-20-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-18-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11- 2-70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00									
17A Homestead AF Base water plant (raw water)	7-12-74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	12-11-73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	4- 3-72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	11-19-71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.0	.0
	5-25-71	.00	.00	.00	.00	.00	.00	.00	.01	.00	.03	.00	.00	.00	.00		.00		.00		

Table 8 summarizes the radiochemical analyses of water samples from 5 stations (1970-74). The radiochemical units are expressed in micrograms per litre (ug/l) or picocuries per litre (pCi/l). A curie is defined as 3.7×10^{10} disintegrations per second and a picocurie is a 10^{-12} curie. Radioactivity was detected at all stations. This activity could have originated from any of numerous sources such as nuclear fallout, scientific research, medical therapy, and industrial deposits.

The highest value detected during 1974 sampling in Dade County for radium-226 was 0.76 pCi/l at Preston Water Plant (station 13). The highest total value of gross beta radiation for the strontium-90/yttrium-90 combination was above 25 pCi/l (double the 1973 concentration) at the Preston Water Plant (station 13). This was a 10-fold increase over the 1972 values. All concentrations were within permissible limits.

Table 8. -- Summary of Radiochemical analyses of water samples at selected sites in Dade County for 1970-1974 calendar years.

Sampling Station No. & Name	Date	Uranium-Nat (ug/1)	Radium - 226 (pCi/1)	Dissolved					Suspended				
				Gross alpha		Gross beta			Gross alpha		Gross beta		
				ug/1 as U-natural	pCi/1 as U-natural	pCi/1 as Sr-90/Y-90	pCi/1 as Cs-137	Solids (mg/1 Residue at 105 C	ug/1 as U-natural	pCi/1 as U-natural	pCi/1 as Sr-90/Y-90	pCi/1 as Cs-137	Solids (mg/1 Residue at 105C
1 Miami Canal east of Levee 30 (formerly Miami Canal at Broken Dam	1-28-75	0.31	0.04	<4.8		3.9	4.	430	<0.4		<0.4	<0.4	
	12-11-73	.03	.28	6.9	2.3	5.8	7.1	420	<0.4	<0.1	<0.4	<0.4	<1
	12-20-72	.01	.29	6.5	2.2	3.9	4.6	390	<0.4	<0.1	<0.4	<0.4	2
	11-18-71	.07	.29	6.0	2.0	4.5	5.6	370	<0.4	<0.1	<0.4	<0.4	<1
	10-22-70	.04	.27	6.7	2.2	5.0	6.2	350	<0.4	<0.1	<0.4	<0.4	<1
	1-13-70	.2	.28	7.8	2.6	4.4	5.5	360	<0.4	<0.1	<0.4	<0.4	<1
3 Lake nr No. Miami Beach	1-28-75	.17	.33	<4.3		4.1	5.1	310	<0.4		<0.4	<0.4	
	12-11-73	.23	.29	<4.5	<1.5	5.3	6.6	290	<0.4	<0.1	<0.4	<0.4	<1
	12-20-72	.31	.36	<3.9	<1.3	5.9	7.1	280	<0.4	<0.1	<0.4	<0.4	3
	11-18-71	.46	.32	5.1	1.7	5.7	7.2	200	<0.4	<0.1	0.5	0.6	3
	10-22-70	.48	.22	<2.4	<0.8	5.6	7.0	150	<0.4	<0.1	<0.4	<0.4	<1
	1-13-70	.5	.06	1.3	0.4	5.2	6.6	160	<0.4	<0.1	<0.4	<0.4	<1
5 Miami Canal above control at N.W. 36th Street	1-28-75	.14	.32	<4.4		3.3	4.1		<0.4		<0.4	<0.4	
	12-11-73	.13	.27	<5.4	1.8	3.7	4.6	400	<0.4	<0.1	<0.4	<0.4	2
	12-20-72	.15	.30	9.4	3.1	4.2	5.0	370	<0.4	<0.4	<0.4	<0.4	2
	11-18-71	.17	.36	5.9	2.0	3.9	4.9	360	<0.4	<0.1	<0.4	<0.4	<1
	10-23-70	.11	.27	2.6	0.9	4.4	5.5	170	<0.4	<0.1	<0.4	<0.4	<1
	1-12-70	.2	.27	4.4	1.5	3.9	4.9	340	<0.4	<0.1	0.5	0.5	<1

Table 8. --(Cont'd.) Summary of Radiochemical analyses of water samples at selected sites in Dade County for 1970-1974 calendar years.

Sampling Station No. & Name	Date	Uranium-Nat (ug/1)	Radium - 226 (pC1/1)	Dissolved					Suspended				
				Gross alpha		Gross beta			Gross alpha		Gross beta		
				ug/1 as U-natural	pCi/1 as U-natural	pCi/1 as Sr-90/Y-90	pCi/1 as Cs-137	Solids (mg/1 Residue at 105 C	ug/1 as U-natural	pCi/1 as U-natural	pCi/1 as Sr-90/Y-90	pCi/1 as Cs-137	Solids (mg/1 Residue at 105 C
10 Lake nr Princeton													
	1-28-75	0.24	0.17	3.3		4.3	5.3	<0.4		<0.4	<0.4		
	12-11-73	.17	.17	1.7	0.6	4.3	5.4	110	<0.4	<0.1	<0.4	<0.4	4
	12-20-72	.19	.12	2.0	0.7	5.0	6.2	120	<0.4	<0.1	<0.4	<0.4	4
	11-18-71	.25	.25	4.3	1.4	6.2	7.6	130	<0.4	<0.1	1.2	1.3	6
	10-23-70	.28	.11	2.1	0.7	6.3	8.0	110	<0.4	<0.1	<0.4	<0.4	<1
	1-13-70	.9	.24	5.9	2.0	4.9	6.1	240	<0.4	<0.1	<0.4	<0.4	<1
13 Preston Water Plant at Hialeah (raw water)													
	1-28-75	.46	.76	<27		25.0	39.0	<0.4		<0.4	<0.4		
	12-11-73	.50	.69	<12.0	4.0	13.0	15.0	820	<0.4	<0.1	<0.4	<0.4	<1
	12-20-72	.56	.87	7.1	2.4	2.6	3.3	440	<0.4	<0.1	<0.4	<0.4	<1
	11-18-71	1.1	.81	17	5.7	4.7	5.8	480	<0.4	<0.1	<0.4	<0.4	<1
	10-23-70	.60	.77	7.4	2.5	3.6	4.6	470	<0.4	<0.1	<0.4	<0.4	6

(ug/1) Micrograms per liter
(pCi/1) Picocuries per liter
One curie of natural uranium is equivalent to 3000 kilograms.

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