PREFACE

This report was prepared in cooperation with the following agencies, whose assistance in collecting and compiling water-level and water-quality data during 1998 is gratefully acknowledged:

Georgia Department of Natural Resources
Environmental Protection Division
Georgia Geologic Survey
Albany Water, Gas, and Light Commission
City of Brunswick
Glynn County

The report is the culmination of a concerted effort by personnel of the U.S. Geological Survey who collected, compiled, organized, analyzed, and verified the data, and who edited and assembled the report. In addition to the author, who had primary responsibility for ensuring that the information contained herein is accurate and complete, the following individuals contributed substantially to the collection, processing, tabulation, and review of the data:

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Data used in this report may be obtained upon request from the U.S. Geological Survey, Peachtree Business Center, Suite 130, 3039 Amwiler Road, Atlanta, GA 30360-2824.

[*Cover:* Photograph of well 34H117—Georgia Port Authority, Brunswick, Georgia
Well previously supplied water for Whorton Crab Company—*a crab-processing facility no longer in existence*
Photograph by Alan M. Cressler]

GROUND-WATER CONDITIONS IN GEORGIA, 1998

By Alan M. Cressler

U.S. GEOLOGICAL SURVEY

Open-File Report 99-204

Prepared in cooperation with the

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
GEORGIA GEOLOGIC SURVEY

ALBANY WATER, GAS, AND LIGHT COMMISSION

CITY OF BRUNSWICK

GLYNN COUNTY

Atlanta, Georgia

1999

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CONTENTS

Abstract **1**
Introduction **2**
- Purpose and scope **2**
- Well-identification numbering system **2**
- Hydrologic unit codes **2**

Ground-water resources **3**
Ground-water levels **6**
- Surficial aquifers **11**
  - Northern area **11**
  - Southwestern area **14**
  - Coastal area **19**
- Upper Brunswick aquifer **26**
- Floridan aquifer system **30**
  - Upper Floridan aquifer **34**
    - Southwestern area **34**
    - South-central area **60**
    - East-central area **64**
    - Savannah area **68**
    - Jesup-Doctortown area **79**
    - Brunswick area **83**
    - St Marys-Okefenokee Swamp area **95**
  - Lower Floridan aquifer in the Glynn County area **102**
- Gordon aquifer system **108**
- Claiborne aquifer **110**
- Clayton aquifer **123**
- Cretaceous aquifers and aquifer systems **135**
  - Providence aquifer **135**
  - Dublin aquifer system **135**
  - Midville aquifer system **135**
  - Dublin-Midville aquifer system **135**
- Paleozoic-rock aquifers **150**
- Crystalline-rock aquifers **153**

Chloride concentration in water from the Floridan aquifer system **161**
- Savannah area **162**
- Brunswick area **165**

Selected references **169**

ILLUSTRATIONS

Figures 1-2. Maps showing:
1. Major aquifers in Georgia **5**
2. Location of observation wells completed in surficial aquifers, northern area **11**

Figures 3-4. Hydrographs showing the water level in observation well:
3. 11AA01, Spalding County **12**
4. 12Z001, Lamar County **13**

Figure 5. Map showing location of observation wells completed in surficial aquifers, southwestern area **14**

Figures 6-9. Hydrographs showing the water level in observation well:
6. 07H003, Miller County **15**
7. 09G003, Decatur County **16**
8. 11J013, Mitchell County **17**
9. 13M007, Worth County **18**

Figure 10. Map showing location of observation wells completed in surficial aquifers, coastal area **19**

Figures 11-16.
11. 32L017, Wayne County **20**
12. 33H208, Glynn County **21**
13. 34H438, Glynn County **22**
14. 34H447, Glynn County **23**
15. 35P094, Chatham County **24**
16. 37P116, Chatham County **25**

Figure 17. Map showing location of observation wells completed in upper Brunswick aquifer **2**

Figures 18-20. Hydrographs showing the water level in observation well: **26**
18. 31U009, Bulloch County **27**
19. 32L016, Wayne County **28**
20. 34H437, Glynn County **29**

Figure 21. Map showing location of observation wells completed in Floridan aquifer system **3**

Figures 22-24. Hydrographs showing the water level in observation well:
22. 12F036, Grady County **31**
23. 27G003, Ware County **32**
24. 31U008, Bulloch County **33**

Figure 25. Map showing location of observation wells completed in Upper Floridan aquifer, southwestern area **34**

Figures 26-50. Hydrographs showing the water level in observation well:
26. 06F001, Seminole County **35**
27. 07H002, Miller County **36**
28. 08G001, Miller county **37**
29. 08K001, Early County **38**
30. 09F520, Decatur County **39**
31. 09G001, Decatur County **40**
32. 09H014, Baker County **41**
33. 10G313, Mitchell County **42**
34. 10K005, Calhoun County **43**
35. 11J012, Mitchell County **44**

ILLUSTRATIONS—Continued

Figures 26-50. Hydrographs showing the water level in observation well:—Continued
36. 11K003, Dougherty County **45**
37. 11K015, Dougherty County **46**
38. 12K014, Baker County **47**
39. 12L028, Dougherty County **48**
40. 12L029, Dougherty County **49**
41. 12L030, Dougherty County **50**
42. 12M017, Lee County **51**
43. 13J004, Mitchell County **52**
44. 13K014, Dougherty County **53**
45. 13L003, Dougherty County **54**
46. 13L012, Dougherty County **55**
47. 13L048, Dougherty County **56**
48. 13L049, Dougherty County **57**
49. 13M006, Worth County **58**
50. 15L020, Worth County **59**

Figure 51. Map showing location of observation wells completed in Upper Floridan aquifer, south-central area **60**

Figures 52-54. Hydrographs showing the water level in observation well:
52. 18H016, Cook County **61**
53. 18K049, Tift County **62**
54. 19E009, Lowndes County **63**

Figure 55. Map showing location of observation wells completed in Upper Floridan aquifer, east-central area **64**

Figures 56-58. Hydrographs showing the water level in observation well:
56. 21T001, Laurens County **65**
57. 25Q001, Montgomery County **66**
58. 26R001, Toombs County **67**

Figure 59. Map showing location of observation wells completed in Upper Floridan aquifer, Savannah area **68**

Figures 60-69. Hydrographs showing the water level in observation well:
60. 32R002, Bulloch County **69**
61. 34N089, Liberty County **70**
62. 35M013, McIntosh County **71**
63. 36Q008, Chatham County **72**
64. 36Q020, Chatham County **73**
65. 37P114, Chatham County **74**
66. 37Q016, Chatham County **75**
67. 37Q185, Chatham County **76**
68. 38Q002, Chatham County **77**
69. 39Q003, Chatham County **78**

Figure 70. Map showing location of observation wells completed in Upper Floridan aquifer, Jesup-Doctortown area **79**

ILLUSTRATIONS—Continued

Figures 71-73. Hydrographs showing the water level in observation well:
71. 30L003, Wayne County **80**
72. 32L015, Wayne County **81**
73. 33M004, Long County **82**

Figure 74. Map showing location of observation wells completed in Upper Floridan aquifer, Brunswick area **83**

Figures 75-85. Hydrographs showing the water level in observation well:
75. 33H127, Glynn County **84**
76. 33H133, Glynn County **85**
77. 33H207, Glynn County **86**
78. 34H125, Glynn County **87**
79. 34H334, Glynn County **88**
80. 34H344, Glynn County **89**
81. 34H354, Glynn County **90**
82. 34H355, Glynn County **91**
83. 34H371, Glynn County **92**
84. 34H403, Glynn County **93**
85. 34H434, Glynn County **94**

Figure 86. Map showing location of observation wells completed in Upper Floridan aquifer, St Marys-Okefenokee area **95**

Figure 87-92. Hydrographs showing the water level in observation well:
87. 27E004, Charlton County **96**
88. 33D069, Camden County **97**
89. 33E007, Camden County **98**
90. 33E027, Camden County **99**
91. 33E040, Camden County **100**
92. 33E054, Camden County **101**

Figure 93. Map showing location of observation wells completed in Lower Floridan aquifer, Glynn County area **102**

Figures 94-98. Hydrographs showing the water level in observation well:
94. 33H188, Glynn County **103**
95. 33H206, Glynn County **104**
96. 33J044, Glynn County **105**
97. 34H391, Glynn County **106**
98. 34H436, Glynn County **107**

Figure 99. Map showing location of observation well in Gordon aquifer system **108**

100. Hydrograph showing the water level in observation well 32Y033, Burke County **109**

101. Map showing location of observation wells in Claiborne aquifer **110**

Figures 102-113. Hydrographs showing the water level in observation well:
102. 06K010, Early County **111**
103. 09M009, Randolph County **112**
104. 11J011, Mitchell County **113**
105. 11K002, Dougherty County **114**
106. 11L001, Dougherty County **115**

ILLUSTRATIONS—Continued

Figures 102-113. Hydrographs showing the water level in observation well:—Continued
107. 11P015, Lee County **116**
108. 12L019, Dougherty County **117**
109. 12M001, Lee County **118**
110. 13L011, Dougherty County **119**
111. 13L015, Dougherty County **120**
112. 13M005, Worth County **121**
113. 14P015, Crisp County **122**
Figure 114. Map showing location of observation wells completed in Clayton aquifer **123**
Figures 115-125. Hydrographs showing the water level in observation well:
115. 06K009, Early County **124**
116. 07N001, Randolph County **125**
117. 09M007, Randolph County **126**
118. 11K005, Dougherty County **127**
119. 11L002, Dougherty County **128**
120. 11P014, Lee County **129**
121, 12L020, Dougherty County **130**
122. 12M002, Lee County **131**
123. 13L002, Dougherty County **132**
124. 13L013, Dougherty County **133**
125. 14P014, Crisp County **134**
Figure 126. Map showing location of observation wells completed in Cretaceous aquifers and aquifer systems **136**
Figures 127-139. Hydrographs showing the water level in observation well:
127. 06S001, Chattahoochee County **137**
128. 37Q186, Chatham County **138**
129. 38Q201, Chatham County **139**
130. 12L021, Dougherty County **140**
131. 18U001, Twiggs County **141**
132. 32Y031, Burke County **142**
133, 18T001, Pulaski County **143**
134. 21U004, Laurens County **144**
135. 24V001, Johnson County **145**
136. 28X001, Burke County **146**
137. 32Y030, Burke County **147**
138. 23X027, Washington County **148**
139. 30AA04, Richmond County **149**
Figure 140. Map showing location of observation wells completed in Paleozoic-rock aquifers **150**
Figures 141-142. Hydrographs showing the water level in observation well:
141. 03PP01, Walker County **151**
142. 07KK64, Gordon County **152**

ILLUSTRATIONS—Continued

Figure 143. Map showing location of observation wells completed in crystalline-rock aquifers **157**

Figures 144-150. Hydrographs showing the water level in observation well:

144. 09JJ02, Cherokee County **154**
145. 10DD02, Fulton County **155**
146. 11FF04, DeKalb County **156**
147. 12JJ04, Dawson County **157**
148. 16MM03, White County **158**
149. 19HH12, Madison County **159**
150. 21BB04, Greene County **160**

Figure 151. Map showing location of chloride-monitoring wells completed in Floridan aquifer system, Savannah area **162**

Figure 152. Graphs showing chloride concentration in water from the Lower Floridan aquifer in the Savannah area **163**

153. Graphs showing chloride concentration in water from the Upper and Lower Floridan aquifers in the Savannah area **164**

154. Map showing location of chloride-monitoring wells completed in Floridan aquifer system, Brunswick area **165**

Figures 155-157. Graphs showing chloride concentration in water from the:

155. Floridan aquifer system in the Brunswick area **166**
156. Floridan aquifer system in the Brunswick area **167**
157. Floridan aquifer system in the Brunswick area **168**

TABLES

Table 1. Previous reports on ground-water conditions in Georgia **3**

2. Aquifer and well characteristics in Georgia **4**
3. Observation wells for which hydrographs are included in this report, by county **7**
4. Observation wells for which hydrographs are included in this report, by well-identification number **10**
5. Observation wells for which chloride-concentration graphs are included in this report **161**

CONVERSION FACTORS AND VERTICAL DATUM

CONVERSION FACTORS

Multiply	*by*	*to obtain*
	Length	
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
	Volume	
gallon per minute (gal/min)	0.06309	liter per second
million gallons per day (Mgal/d)	0.04381	cubic meter per second
	43.81	liter per second

VERTICAL DATUM

Sea Level—In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Sea Leve' Datum of 1929."

GROUND-WATER CONDITIONS IN GEORGIA, 1998

By

Alan M. Cressler

ABSTRACT

Ground-water conditions in Georgia during 1998 and for the period of record were evaluated using data from U.S. Geological Survey ground-water-level and ground-water-quality monitoring networks. Data for 1998 included in this report are from continuous water-level records from 130 wells and chloride analyses from 14 wells. Data from one well is incomplete because data collection was discontinued.

Chloride concentration in water from the Upper Floridan aquifer in most of coastal Georgia was within drinking-water standards established by the Georgia Department of Natural Resources and the U.S. Environmental Protection Agency. In the Savannah area, chloride concentration has not changed appreciably with time. However, chloride concentration in water from some wells that tap the Floridan aquifer system in the Brunswick area exceeds the drinking-water standards.

INTRODUCTION

Ground-water-level and ground-water-quality data are essential for water assessment and management. Ground-water-level fluctuations and trends can be used to estimate changes in aquifer storage resulting from the effects of ground-water withdrawal and recharge from precipitation. These data can be used to address water-management needs and to evaluate the effects of management and conservation programs.

As part of the ground-water investigations conducted by the U.S. Geological Survey (USGS), in cooperation with the State of Georgia and city and county governments, a Statewide water-level-measurement program was started in 1938. Initially, this program consisted of an observation-well network in the coastal area of Georgia to monitor variations in ground-water storage and quality. Additional wells were later included in areas where data could be used to aid in water-resources development and management.

During 1998, periodic water-level measurements were made in 1,044 wells, and continuous water-level measurements were obtained from 171 wells. Continuous water-level records were obtained using analog (pen and chart) recorders, digital recorders that record the water level at 30-minute or 60-minute intervals, and electronic data recorders that record the water level at 60-minute intervals. For wells having incomplete water-level record, water levels during periods of missing record may have been higher or lower than recorded water levels. Water samples collected from 81 wells during June, July, August, September, October, November, and December 1998 were analyzed to determine chloride concentration in the Savannah and Brunswick areas.

Purpose and Scope

This report presents selected ground-water-level and ground-water-quality data for Georgia for calendar year 1998 and for the period of record. Graphs showing ground-water levels in 130 wells are presented. Graphs show chloride concentrations in water collected from 14 wells tapping the Floridan aquifer system in the Savannah and Brunswick areas. The text includes a brief discussion of the aquifers and aquifer systems, ground-water levels, and chloride concentration in water. An extensive list of references of water-resources investigations are presented in "Selected References;" previously published reports on Georgia ground-water conditions are listed in table 1.

Georgia Well-Identification Numbering System

Wells described in this report are given an identification number according to a system based on the USGS index of topographic maps of Georgia. Each 7.5-minute topographic quadrangle in the State has been assigned a three to four-digit number and letter designation (example, 07H, 11AA) beginning at the southwestern corner of the State. Numbers increase sequentially eastward and letters advance alphabetically northward. Quadrangles in the northern part of the State are designated by double letters; AA follows Z, and so forth. The letters "I", "O", "II", and "OO" are not used. Wells inventoried in each quadrangle are numbered consecutively, beginning with 01. Thus, the fourth well inventoried in the 11AA quadrangle is designated 11AA04.

Hydrologic Unit Codes

The hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the USGS, Office of Water Data Coordination, on state hydrologic unit maps; each hydrologic unit is identified by an 8-digit number.

Table 1. Previous reports on ground-water conditions in Georgia
[USGS, U.S. Geological Survey]

Year of data collection	USGS Open-File Report number	Author(s)	Year of publication
1977	79-213	U.S. Geological Survey	1978
1978	79-1290	Clarke, J.S., Hester, W.G., and O'Byrne, M.P.	1979
1979	80-501	Mathews, S.E., Hester, W.G., and O'Byrne, M.P.	1980
1980	81-1068	Mathews, S.E., Hester, W.G., and O'Byrne, M.P.	1981
1981	82-904	Mathews, S.E., Hester, W.G., and McFadden, K.W.	1982
1982	83-678	Stiles, H.R., and Mathews, S.E.	1983
1983	84-605	Clarke, J.S., Peck, M.F., Longsworth, S.A., and McFadden, K.W.	1984
1984	85-331	Clarke, J.S., Longsworth, S.A., McFadden, K.W., and Peck, M.F.	1985
1985	86-304	Clarke, J.S., Joiner, C.N., Longsworth, S.A., McFadden, K.W.,and Peck, M.F.	1986
1986	87-376	Clarke, J.S., Longsworth, S.A., Joiner, C.N., Peck, M.F., McFadden, K.W., and Milby, B.J.	1987
1987	88-323	Joiner, C.N., Reynolds, M.S., Stayton, W.L., and Boucher, F.G.	1988
1988	89-408	Joiner, C.N., Peck, M.F., Reynolds, M.S., and Stayton, W.L.	1989
1989	90-706	Peck, M.F., Joiner, C.N., Clarke, J.S., and Cressler, A.M.	1990
1990	91-486	Milby, B.J., Joiner, C.N., Cressler, A.M., and West, C.T.	1991
1991	92-470	Peck, M.F., Joiner, C.N., and Cressler, A.M.	1992
1992	93-358	Peck, M.F., and Cressler, A.M.	1993
1993	94-118	Joiner, C.N., and Cressler, A.M.	1994
1994	95-302	Cressler, A.M., Jones, L.E., and Joiner, C.N.	1995
1995	96-200	Cressler, A.M.	1996
1996	97-192	Cressler, A.M.	1997
1997	98-172	Cressler, A.M.	1998

GROUND-WATER RESOURCES

Contrasting geologic features and landforms of the physiographic provinces of Georgia (table 2, fig. 1) result in substantial differences in ground-water conditions from one part of the State to another. These features that make up the framework of the aquifers affect the quantity and quality of ground water throughout the State.

Surficial aquifers are present in each of the physiographic provinces. In the Piedmont, Blue Ridge, and Valley and Ridge Provinces (fig. 1), the surficial aquifers consist of soil, saprolite, stream alluvium, colluvium, and other surficial deposits. In the Coastal Plain Province, the surficial aquifers consist of intermixed layers of sand, clay, and limestone. The surficial aquifers usually are under water-table (unconfined) conditions and are used for domestic and livestock supplies. These aquifers are semiconfined locally in the coastal area.

In the Piedmont and Blue Ridge Provinces, rocks are complex and consist of structurally deformed metamorphic and igneous rocks. Ground water is transmitted through secondary openings along fractures, foliation, joints, contacts, or other features in the crystalline bedrock.

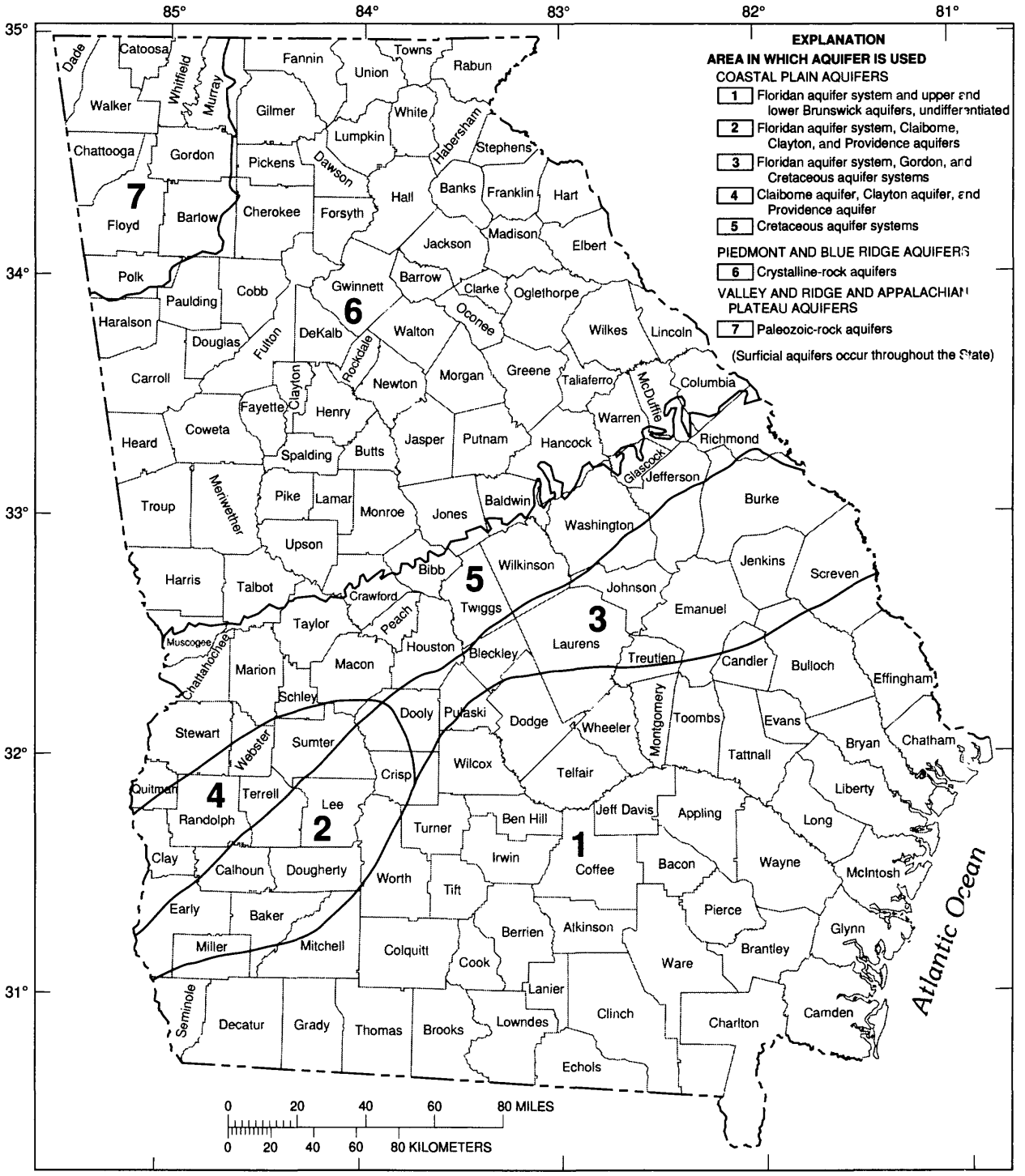
In the Valley and Ridge Province, ground water is transmitted through both primary and secondary openings in folded and faulted sedimentary and metasedimentary rocks of Paleozoic age.

The most productive aquifers in Georgia are in the Coastal Plain Province in the southern part of the State. The Coastal Plain is underlain by alternating layers of sand, clay, dolomite, and limestone that dip and thicken to the southeast. Coastal Plain aquifers generally are confined except near their northern limits, where they crop out or are near land surface. Aquifers in the Coastal Plain include the upper and lower Brunswick aquifer, the Floridan aquifer system, the Claiborne aquifer, the Gordon aquifer, the Clayton aquifer, and the Cretaceous aquifers and aquifer systems.

Table 2. Aquifer and well characteristics in Georgia

[modified from Clarke and Pierce (1984) and Peck and others (1992); ft, feet; gal/min, gallons per minute]

Aquifer name and description	Well characteristics			Remarks
	Depth (ft)	Yield (gal/min)		
	Common range	Common range	May exceed	
Surficial aquifer: Unconsolidated sediments; residuum, generally unconfined	11-72	2-25	25	Primary source of water for domestic and livestock supply in rural areas. Supplemental source of water in coastal Georgia.
Upper and lower Brunswick aquifers: Phosphatic and dolomitic quartz sand, generally confined	85-390	10-30	180	Not a major source of water in coastal Georgia, but considered a supplemental water supply to the Upper Floridan aquifer. Most wells are multi-aquifer, tapping the upper and lower Brunswick aquifers and the Upper Floridan aquifer. The lower Brunswick aquifer currently is not monitored (Clarke and others, 1990, p. 26-28).
Floridan aquifer system: Limestone, dolomite, and calcareous sand, generally confined	40-900	1,000-5,000	11,000	Supplies 50 percent of ground water in Georgia. The aquifer system is divided into the Upper and Lower Floridan aquifers. In the Brunswick area, the Upper Floridan aquifer includes two freshwater-bearing zones, the upper water-bearing zone and the lower water-bearing zone. The Lower Floridan aquifer is not considered a major aquifer. In the Brunswick area and in southeastern Georgia, the Lower Floridan aquifer includes the brackish-water zone, the deep freshwater zone, and the Fernandina permeable zone (Krause and Randolph, 1989). The Lower Floridan aquifer extends to more than 2,700 ft and yields high-chloride water below 2,300 f (Jones and Maslia, 1994).
Gordon aquifer system: Sand and sandy limestone, generally confined	270-530	87-1,200	1,800	Major source of water for irrigation, industrial, and public-supply use in east-central Georgia
Claiborne aquifer: Sand and sandy limestone, generally confined	20-450	150-600	1,500	Major source of water for irrigation, industrial, and public-supply use in southwestern Georgia.
Clayton aquifer: Limestone and sand, generally confined	40-800	250-600	2,150	Major source of water for irrigation, industrial, and public-supply use in southwestern Georgia.
Cretaceous aquifers and aquifer systems: Sand and gravel, generally confined	30-750	50-1,200	3,300	Major source of water in east-central Georgia. Supplies water for kaolin mining and processing. Includes the Providence aquifer in southwestern Georgia, and the Dublin, Midville, and Dublin-Midville aquifer systems in east-central Georgia.
Paleozoic-rock aquifers: Sandstone, limestone, and dolostone	15-2,100	1-50	3,500	Not laterally extensive. Limestone and dolostone aquifers are most productive. Storage is in regolith, primary openings, and secondary fractures and solution openings in rock. Springs in limestone and dolostone aquifers discharge at rates of as much as 5,000 gal/min. Sinkholes may form in areas of intensive pumping.
Crystalline-rock aquifers: Granite, gneiss, schist, and quartzite	40-600	1-25	500	Not laterally extensive. Storage is in regolith and fractures in rock. Hydrogeology of crystalline-rock aquifers is not well understood.



Base modified from U.S.Geological Survey
State base map

Figure 1. Major aquifers in Georgia (modified from Peck and others, 1992).

GROUND-WATER LEVELS

Short-term fluctuations and long-term trends in ground-water levels result from variations in recharge and discharge. Recharge varies in response to precipitation and surface-water infiltration into an aquifer. Discharge occurs as natural flow from an aquifer to streams and springs, as evapotranspiration, and as withdrawal from wells.

Discussions of ground-water levels in Georgia are grouped by aquifer and subdivided into areas and subareas in which wells have similar water-level fluctuations and trends.

Water-level fluctuations in 1998 are shown for 130 continuously monitored wells (table 3 and 4), which are considered to be representative of ground-water levels throughout the State. For each well, well-site information is listed, record high and low water levels for the period of record, monthly mean water levels are shown in hydrographs for the period of record, daily mean water levels are shown in hydrographs for 1998, and monthly and annual water-level statistics (minimum, mean, and maximum daily mean water levels) are tabulated for 1998. Monthly statistics are not computed for months having less than 25 days of record. Extreme water levels for the period of record listed in the well-site information and tabulated water-level statistics are reported to the nearest 0.01 ft, reflecting the accuracy of the recorders used. Land-surface data generally are determined from the best available topographic map, and are accurate to about one-half the contour interval. Some land-surface data were determined by surveying methods or Global Positioning System (GPS) and are more accurate. In this report, an extreme water level refers to the lowest or highest daily mean water level for the period of record of a particular well. Thus, any instantaneous water-level measurement on a given day may be lower or higher than the extreme water level reported in the text, the daily mean water level shown on the hydrograph, or the minimum or maximum values tabulated.

Table 3. Observation wells for which hydrographs are included in this report

County	Well identification number	Site name	Aquifer name	Page number
Baker	09H014	Jo-Su-Li Farms, test well 2	Upper Floridan	41
Baker	12K014	Blue Springs, observation well	Upper Floridan	47
Bulloch	31U008	Georgia Geologic Survey, Hopeulikit, test well 1	Floridan	33
Bulloch	31U009	Georgia Geologic Survey, Hopeulikit, test well 2	upper Brunswick	27
Bulloch	32R002	Georgia Geologic Survey, Bulloch South, test well 1	Upper Floridan	69
Burke	28X001	U.S. Geological Survey, Midville, test well 1	Midville aquifer system	146
Burke	32Y030	Brighams Landing, test well 1	lower Midville	147
Burke	32Y031	Brighams Landing, test well 2	lower Dublin	142
Burke	32Y033	Brighams Landing, test well 3	Gordon aquifer system	109
Calhoun	10K005	Bill Jordan, Ocala well	Upper Floridan	43
Camden	33D069	National Park Service, Cumberland Island National Seashore	Upper Floridan	97
Camden	33E007	Huntly-Jiffy	Upper Floridan	98
Camden	33E027	U.S. Navy, Kings Bay, test well 1	Upper Floridan	99
Camden	33E040	U.S. Navy, Kings Bay, observation well 2	Upper Floridan	100
Camden	33E054	Rayland Company no. 1	Upper Floridan	101
Charlton	27E004	U.S. Geological Survey, test well OK-9	Upper Floridan	96
Chatham	35P094	University of Georgia, Bamboo Ferry well	surficial (sand of Miocene and post-Miocene age)	24
Chatham	36Q008	Layne-Atlantic	Upper Floridan	72
Chatham	36Q020	H.J. Morrison	Upper Florida	73
Chatham	37P114	Georgia Geologic Survey, Skidaway Institute test well 2	Upper Floridan	74
Chatham	37P116	Georgia Geologic Survey, Skidaway Institute test well 4	surficial (sand of Miocene and post-Miocene age)	25
Chatham	37Q016	East Coast Terminal well	Upper Floridan	75
Chatham	37Q185	U.S. Geological Survey, Hutchinson Island, test well 1	Upper Floridan	76
Chatham	37Q186	U.S. Geological Survey, Hutchinson Island, test well 2	Paleocene and Cretaceous aquifer system	138
Chatham	38Q002	National Park Service, test well 6	Upper Floridan	77
Chatham	38Q201	National Park Service, Fort Pulaski, test well	Paleocene and Cretaceous aquifer system	139
Chatham	39Q003	U.S. Geological Survey, test well 7	Upper Floridan	78
Chattahoochee	06S001	U.S. Army, Fort Benning	Cretaceous (Blufftown, Eutaw, and Tuscaloosa Formations)	137
Cherokee	09JJ02	Reinhardt Colleage, well A	crystalline rock	154
Cook	18H016	U.S. Geological Survey, Adel, test well	Upper Floridan	61
Crisp	14P014	Georgia Geologic Survey, Veteran's Memorial Park, test well 1	Clayton	134
Crisp	14P015	Georgia Geologic Survey, Veteran's Memorial Park, test well 2	Claiborne	122
Dawson	12JJ04	U.S. Geological Survey, test well 1	crystalline rock	157
Decatur	09F520	Graham Bolton	Upper Floridan	39
Decatur	09G001	U.S. Geological Survey, test well DP-4	Upper Floridan	40
Decatur	09G003	U.S. Geological Survey, test well DP-6	surficial (sediments of Eocene age)	16
DeKalb	11FF04	U.S. Geological Survey, test well 5	crystalline rock	156
Dougherty	11K002	U.S. Geological Survey, test well 11	Claiborne	114
Dougherty	11K003	Nilo test well, north	Upper Floridan	45
Dougherty	11K005	U.S. Geological Survey test well12	Clayton	127
Dougherty	11K015	U.S. Geological Survey test well14	Upper Floridan	46
Dougherty	11L001	U.S. Geological Survey test well 4	Claiborne	115
Dougherty	11L002	Georgia Geologic Survey, Albany Nursery	Clayton	128

Table 3. Observation wells for which hydrographs are included in this report—Continued

County	Well identification number	Site name	Aquifer name	Page number
Dougherty	12L019	U.S. Geological Survey, test well 5	Claiborne	117
Dougherty	12L020	U.S. Geological Survey, test well 6	Clayton	130
Dougherty	12L021	U.S. Geological Survey, test well 10	Providence	140
Dougherty	12L028	Vandy W. Musgrove	Upper Floridan	48
Dougherty	12L029	U.S. Geological Survey, test well 13	Upper Floridan	49
Dougherty	12L030	U.S. Geological Survey, test well 16	Upper Floridan	50
Dougherty	13K014	U.S. Geological Survey, test well 15	Upper Floridan	53
Dougherty	13L002	Albany Water, Gas, and Light Commission, Turner City 2	Clayton	132
Dougherty	13L003	Albany and Dougherty County	Upper Floridan	54
Dougherty	13L011	U.S. Geological Survey, test well 2	Claiborne	119
Dougherty	13L012	U.S. Geological Survey, test well 3	Upper Floridan	55
Dougherty	13L013	U.S. Geological Survey, test well 7	Clayton	133
Dougherty	13L015	Miller Brewing Company	Claiborne	120
Dougherty	13L048	U.S. Geological Survey, test well 17 Rackley	Upper Floridan	56
Dougherty	13L049	Miller Ammo Supply	Upper Floridan	57
Early	06K009	Georgia Geologic Survey, Kolomoki Mounds State Park, test well 1	Clayton	124
Early	06K010	Georgia Geologic Survey, Kolomoki Mounds State Park, test well 3	Claiborne	111
Early	08K001	Ike Newberry, test well 1	Upper Floridan	38
Fulton	10DD02	U.S. Army, Fort McPherson	crystalline rock	155
Glynn	33H127	U.S. Geological Survey, test well 3	Upper Floridan; lower water-bearing zone	84
Glynn	33H133	U.S. Geological Survey, test well 6	Upper Floridan; upper water-bearing zone	85
Glynn	33H188	U.S. Geological Survey, test well 26	Lower Floridan, Fernandina permeable zone	103
Glynn	33H206	Georgia-Pacific, South, test well1	Lower Floridan	104
Glynn	33H207	Georgia-Pacific, South, test well 2	Upper Floridan	86
Glynn	33H208	Georgia-Pacific, South, test well 3	surficial (sand of Miocene and post-Miocene age)	21
Glynn	33J044	U.S. Geological Survey, test well 27	Lower Floridan	105
Glynn	34H125	U.S. Geological Survey, test well 1	Upper Floridan	87
Glynn	34H334	U.S. Geological Survey, test well 4	Upper Floridan; lower water-bearing zone	88
Glynn	34H344	U.S. Geological Survey, test well 7	Upper Floridan	89
Glynn	34H354	U.S. Geological Survey, test well 8	Upper Floridan; lower water-bearing zone	90
Glynn	34H355	U.S. Geological Survey, test well 9	Upper Floridan	91
Glynn	34H371	U.S. Geological Survey, test well 11	Upper Floridan, upper water-bearing zone	92
Glynn	34H391	U.S. Geological Survey, test well 16	Lower Floridan; brackish	106
Glynn	34H403	U.S. Geological Survey, test well 24	Upper Floridan; lower water-bearing zone	93
Glynn	34H434	Glynn County Courthouse (deep)	Upper Floridan	94
Glynn	34H436	Georgia Geologic Survey, Coffin Park, test well 1	Lower Floridan; brackish	107
Glynn	34H437	Georgia Geologic Survey, Coffin Park, test well 2	upper Brunswick	29
Glynn	34H438	Georgia Geologic Survey, Coffin Park, test well 3	surficial; (sand of Miocene and post-Miocene age)	22
Glynn	34H447	Glynn County Courthouse (shallow)	surficial; (sand of Miocene and post-Miocene age)	23
Gordon	07KK64	City of Calhoun, test well 1	Paleozoic rock	152
Grady	12F036	U.S. Geological Survey, Cairo	Floridan	31
Greene	21BB04	Charles Veasey	crystalline rock	160
Johnson	24V001	U.S. Geological Survey, test well 1	Midville aquifer system	145

Table 3. Observation wells for which hydrographs are included in this report—Continued

County	Well identification number	Site name	Aquifer name	Page number
Lamar	12Z001	Dixie Pipeline	surficial (residuum)	13
Laurens	21T001	Danny Hogan	Upper Floridan	65
Laurens	21U004	Georgia Department of Natural Resources, Laurens no. 3	Midville aquifer system	144
Lee	11P014	Pete Long, test well 1	Clayton	129
Lee	11P015	Pete Long, test well 2	Claiborne	116
Lee	12M001	U.S. Geological Survey, test well 8	Claiborne	118
Lee	12M002	U.S. Geological Survey, test well 9	Clayton	131
Lee	12M017	U.S. Geological Survey, test well 19	Upper Floridan	51
Liberty	34N089	U.S. Geological Survey, test well 1	Upper Floridan	70
Long	33M004	U.S. Geological Survey, test well 3	Upper Floridan	82
Lowndes	19E009	City of Valdosta	Upper Floridan	63
Madison	19HH12	Meadowlake Estates	crystalline rock	159
McIntosh	35M013	U.S. Fish and Wildlife Service	Upper Floridan	71
Miller	07H002	U.S. Geological Survey, test well DP-2	Upper Floridan	36
Miller	07H003	U.S. Geological Survey, test well DP-3	surficial (residuum)	15
Miller	08G001	Viercocken	Upper Floridan	37
Mitchell	10G313	Harvey Meinders	Upper Floridan	42
Mitchell	11J011	U.S. Geological Survey, test well DP-10	Claiborne	113
Mitchell	11J012	U.S. Geological Survey, test well DP-11	Upper Floridan	44
Mitchell	11J013	U.S. Geological Survey, test well DP-12	surficial (sediments of Eocene age)	17
Mitchell	13J004	Aurora Dairys	Upper Floridan	52
Montgomery	25Q001	Montgomery County Board of Education	Upper Floridan	66
Pulaski	18T001	U.S. Geological Survey, Arrowhead, test well 1	Midville aquifer system	143
Randolph	07N001	City of Cuthbert	Clayton	125
Randolph	09M007	C.T. Martin, test well 2	Clayton	126
Randolph	09M009	C.T. Martin, test well 1	Claiborne	112
Richmond	30AA04	U.S. Geological Survey, McBean 2	Dublin-Midville aquifer system	149
Seminole	06F001	Roddenbery Company Farms, test well 1	Upper Floridan	35
Spalding	11AA01	University of Georgia, Experiment Station	surficial (residuum)	12
Tift	18K049	U.S. Geological Survey, test well 1	Upper Floridan	62
Toombs	26R001	City of Vidalia, well 2	Upper Floridan	67
Twiggs	18U001	Georgia Kraft, U.S. Geological Survey, test well 3	Dublin aquifer system	141
Walker	03PP01	U.S. National Park Service, Chickamauga Battlefield Park	Paleozoic rock	151
Ware	27G003	U.S. Geological Survey, test well1	Floridan	32
Washington	23X027	City of Sandersville, well 8	Dublin-Midville aquifer system	148
Wayne	30L003	City of Jesup Housing Authority	Upper Floridan	80
Wayne	32L015	Georgia Geologic Survey, Gardi, test well 1	Upper Floridan	81
Wayne	32L016	Georgia Geologic Survey, Gardi, test well 2	upper Brunswick	28
Wayne	32L017	Georgia Geologic Survey, Gardi, test well 3	surficial (sand of Miocene and post-Miocene age)	20
White	16MM03	Unicoi State Park, well 4	crystalline rock	158
Worth	13M005	U.S. Geological Survey, test well DP-7	Claiborne	121
Worth	13M006	U.S. Geological Survey, test well DP-8	Upper Floridan	58
Worth	13M007	U.S. Geological Survey, test well DP-9	surficial (residuum)	18
Worth	15L020	City of Sylvester	Upper Floridan	59

Table 4. Observation wells for which hydrographs are included in this report, by well identification number
[USGS, U.S. Geological Survey]

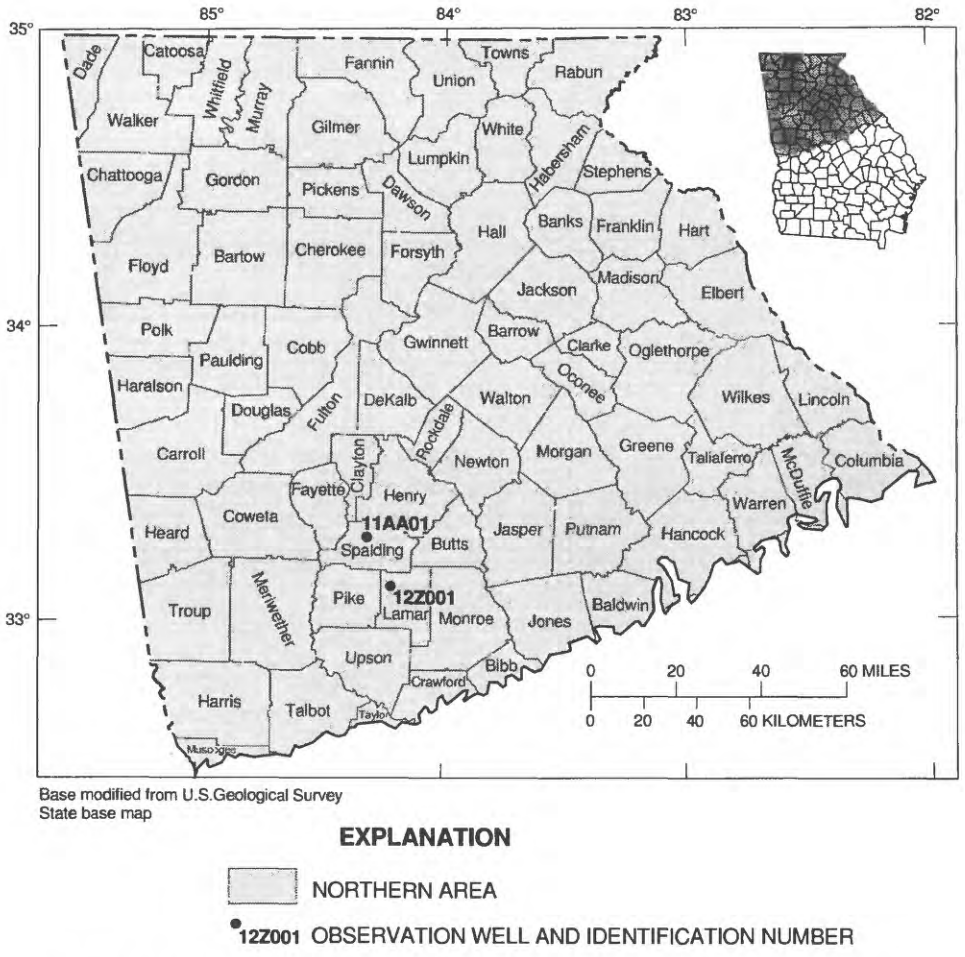
Well identification number	USGS site identification number	Page number
03PP01	345403085160001	151
06F001	305356084534601	35
06K009	312827084551501	124
06K010	312827084551503	111
06S001	322036084590301	137
07H002	311009084495502	36
07H003	311009084495503	15
07KK64	342922084511601	152
07N001	314602084473701	125
08G001	310651084404501	37
08K001	312232084391701	38
09F520	305736084355801	39
09G001	310428084310501	40
09G003	310428084310503	16
09H014	311335084311901	41
09JJ02	341913084325301	154
09M007	313953084361202	126
09M009	313953084361201	112
10DD02	334207084254801	155
10G313	310507084262201	42
10K005	312853084275101	43
11AA01	331507084171801	12
11FF04	335517084164001	156
11J011	311802084192301	113
11J012	311802084192302	44
11J013	311802084192303	17
11K002	312654084210102	114
11K003	312919084153801	45
11K005	312654084210103	127
11K015	312709084161701	46
11L001	313530084203202	115
11L002	313532084203501	128
11P014	315353084192501	129
11P015	315353084192502	116
12F036	305235084125101	31
12JJ04	342125084083301	157
12K014	312617084110701	47
12L019	313534084103001	117
12L020	313534084103002	130
12L021	313534084103003	140
12L028	313302084120301	48
12L029	313450084091801	49
12L030	313130084101001	50
12M001	313813084125001	118
12M002	313812084125001	131
12M017	313808084093601	51
12Z001	330858084122901	13
13J004	312127084065801	52
13K014	312704084071601	53
13L002	313554084062501	132
13L003	313748084002901	54
13L011	313105084064301	119
13L012	313105084064302	55
13L013	313105084064202	133
13L015	313625084041501	120
13L048	313031084005901	56
13L049	313521084051001	57
13M005	314330084005401	121
13M006	314330084005402	58
13M007	314330084005403	18
14P014	315731083542301	134
14P015	315731083542302	122
15L020	313146083491601	59
16MM03	344314083433201	158
18H016	310813083260301	61
18K049	312712082593301	62
18T001	322245083290101	143
18U001	323302083263401	141
19E009	304949083165301	63
19HH12	341020083201701	159
21BB04	332808083010201	160
21T001	322652083033001	65
21U004	323030083030003	144
23X027	325848082480901	148
24V001	324209082430201	145
25Q001	320226082301101	66
26R001	321302082243601	67
27E004	304942082213801	96
27G003	310706082155101	32
28X001	325232082131501	146
30AA04	331711081573701	149
30L003	313701081543501	80
31U008	323123081511601	33
31U009	323123081511602	27
32L015	313253081433502	81
32L016	313253081433503	28
32L017	313253081433504	20
32R002	321240081411501	69
32Y030	330548081391101	147
32Y031	330548081391102	142
32Y033	330548081391103	109
33D069	304313081330001	97
33E007	304512081343601	98
33E027	304756081311101	99
33E040	304748081335301	100
33E054	304850081342001	101
33H127	311007081301701	84
33H133	311007081301702	85
33H188	310810081323501	103
33H206	310925081312201	104
33H207	310925081312202	86
33H208	310925081312203	21
33J044	311633081324001	105
33M004	313845081361701	82
34H125	310906081293201	87
34H334	310938081285301	88
34H344	310938081285302	89
34H354	310924081295201	90
34H355	310924081295202	91
34H371	310818081293701	92
34H391	310818081294201	106
34H403	310822081294201	93
34H434	310911081294101	94
34H436	310901081284401	107
34H437	310901081284402	29
34H438	310901081284403	22
34H447	310911081294102	23
34N089	315214081235301	70
35M013	313823081154201	71
35P094	315950081161201	24
36Q008	320530081085001	72
36Q020	320021081124801	73
37P114	315906081011202	74
37P116	315906081011204	25
37Q016	320433081042701	75
37Q185	320622081063701	76
37Q186	320622081063702	138
38Q002	320202080541201	77
38Q201	320150080540601	139
39Q003	320122080510204	78

Surficial Aquifers

Water-level fluctuations in surficial aquifers were monitored in 16 wells in 1998 and data from 12 of these wells are summarized in this report. Water-level fluctuations in surficial aquifers are mainly caused by variations in precipitation, evapotranspiration, and natural drainage. In addition, the water level in surficial aquifers in the Brunswick area is influenced by nearby pumping, precipitation, and tidal fluctuations (Clarke and others, 1990, p. 24). Water levels in surficial aquifers generally rise rapidly during wet periods and decline slowly during dry periods. Prolonged droughts may cause water levels to decline below pump intakes in shallow wells, particularly those located on hilltops and steep slopes, resulting in temporary well failures. Usually, well yields are restored by precipitation. Areas of the surficial aquifers referred to in this report include: northern, southwestern, and coastal.

Northern area

Water levels in the surficial aquifers in the northern area (fig. 2) were monitored in six wells in 1998. Data for two of these wells are shown in figures 3 and 4.



Base modified from U.S.Geological Survey
State base map

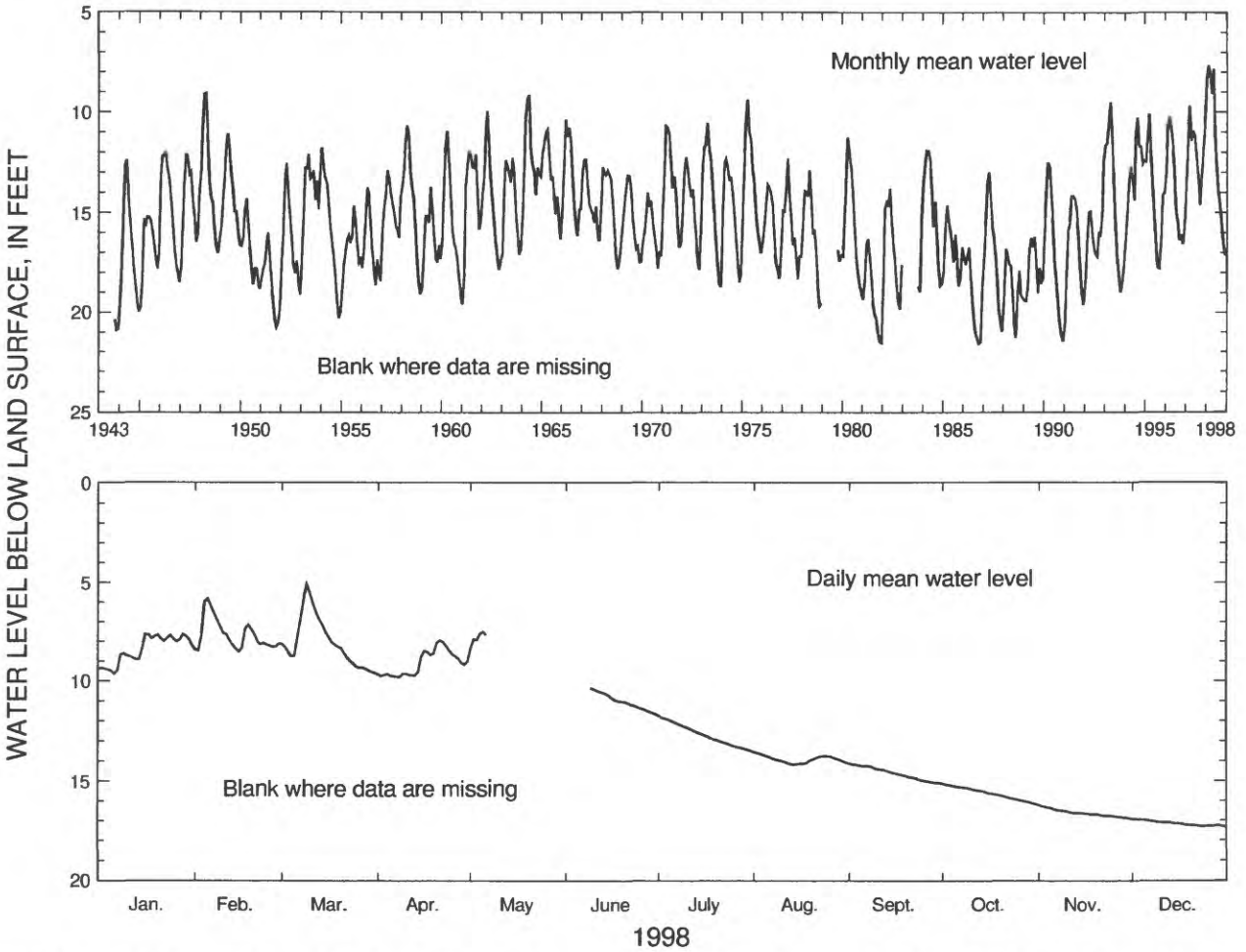
EXPLANATION

NORTHERN AREA

12Z001 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 2. Location of observation wells completed in surficial aqufers, northern area.

IDENTIFICATION NUMBER.—11AA01.
LOCATION.—Lat 33°15'54", long 84°16'56", Hydrologic Unit 03070103.
SITE NAME.—University of Georgia, Experiment Station.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (residuum).
WELL CHARACTERISTICS.—Dug unused supply well, size 4 x 4 ft, depth 30 ft, cased to 30 ft, open end.
DATUM.—Altitude of land-surface datum is 950 ft.
REMARKS.—Recorder removed for building construction, May 7 to June 8, 1998.
PERIOD OF RECORD.—October 1943 to current year. Continuous record since October 1943.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 5.09 ft below land-surface datum, March 9, 1998; lowest, 21.82 ft below land-surface datum, November 18-19, 1986.

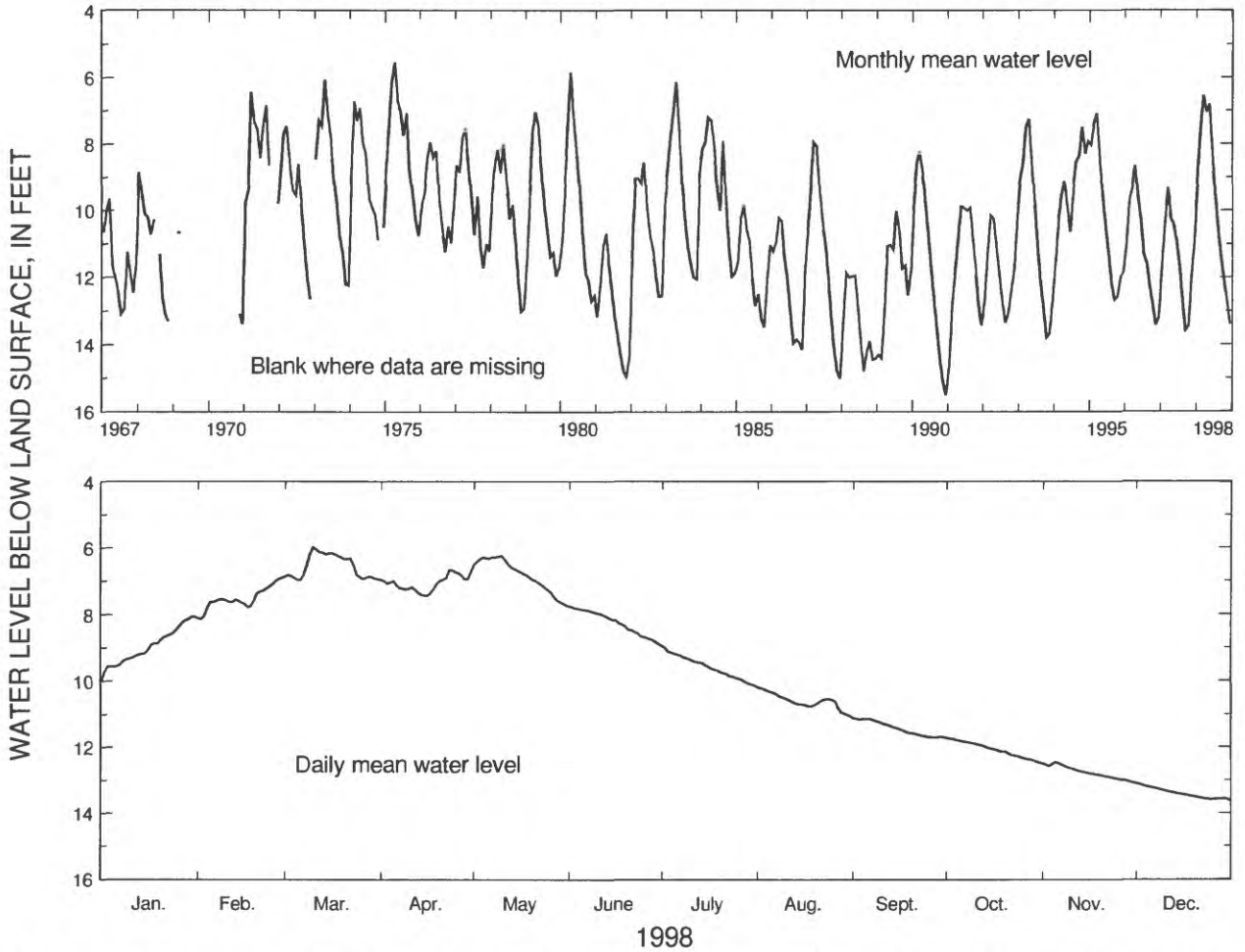


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	7.64	5.82	5.09	7.95	------	------	11.75	13.56	14.15	15.14	16.20	16.92
MEAN	8.42	7.66	8.05	9.10	------	------	12.69	13.93	14.64	15.62	16.61	17.15
LOW	9.63	8.52	9.58	9.80	------	------	13.50	14.19	15.12	16.16	16.89	17.32

SUMMARY FOR 1998 HIGH 5.09 (Mar. 9, 1998) MEAN 12.25 LOW 17.32 (Dec. 31, 1998)

Figure 3. Water level in observation well 11AA01, Spalding County.

IDENTIFICATION NUMBER.—12Z001.
LOCATION.—Lat 33°08′58″, long 84°12′29″, Hydrologic Unit 03130005.
SITE NAME.—Dixie Pipeline.
INSTRUMENTATION.—Analog recorder.
AQUIFER.—Surficial (residuum).
WELL CHARACTERISTICS.—Bored observation well, diameter 24 in., depth 31 ft, cased to 30 ft, open hole.
DATUM.—Altitude of land-surface datum is 852.1 ft.
REMARKS.—None.
PERIOD OF RECORD.—January 1967 to current year. Continuous record since January 1967.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.96 ft below land-surface datum, April 17, 1975; lowest, 15.62 ft below land-surface datum, December 20, 1990.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	8.06	6.90	5.98	6.67	6.25	7.75	8.94	10.19	11.12	11.72	12.46	13.10
MEAN	8.97	7.52	6.55	7.06	6.81	8.24	9.57	10.60	11.43	12.07	12.76	13.41
LOW	10.02	8.12	6.96	7.42	7.72	8.88	10.13	11.06	11.70	12.48	13.08	13.62

SUMMARY FOR 1998 HIGH 5.98 (Mar. 10, 1998) MEAN 9.60 LOW 13.62 (Dec. 31, 1998)

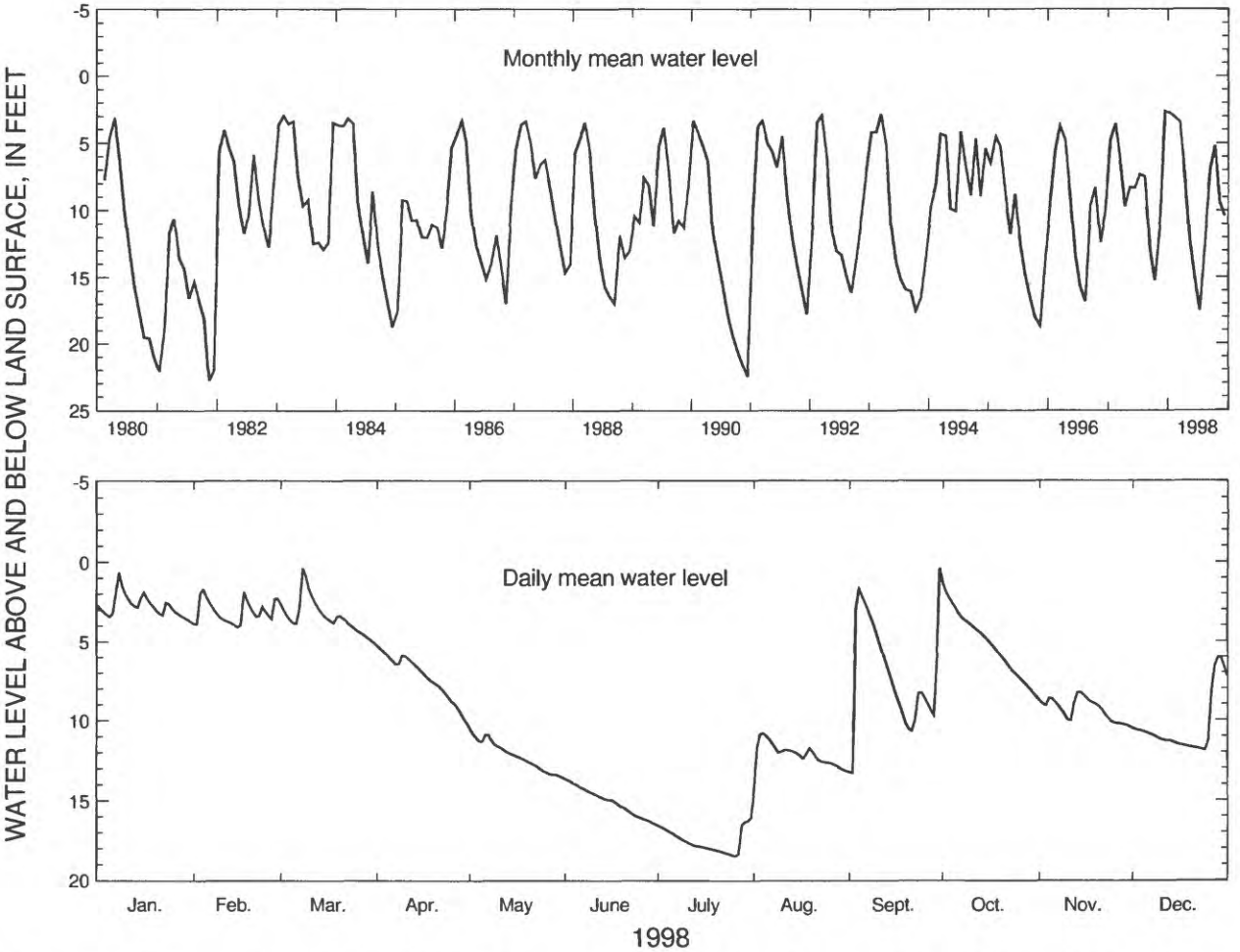
Figure 4. Water level in observation well 12Z001, Lamar County.

Southwestern area

Water levels were monitored in four wells that tap surficial aquifers in the southwestern area (fig. 5) in 1998. Data from these wells are shown in figures 6-9.

Figure 5. Location of observation wells completed in surficial aqufers, southwestern area.

IDENTIFICATION NUMBER.—07H003.
LOCATION.—Lat 31°10′08″, long 84°49′54″, Hydrologic Unit 03130010.
SITE NAME.—U.S. Geological Survey, test well DP-3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (residuum).
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 40 ft, perforated casing from 30 to 40 ft.
DATUM.—Altitude of land-surface datum is 180 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1980 to current year. Continuous record since February 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.25 ft below land-surface datum, January 30, 1991; lowest, 24.19 ft below land-surface datum, November 10, 1981.

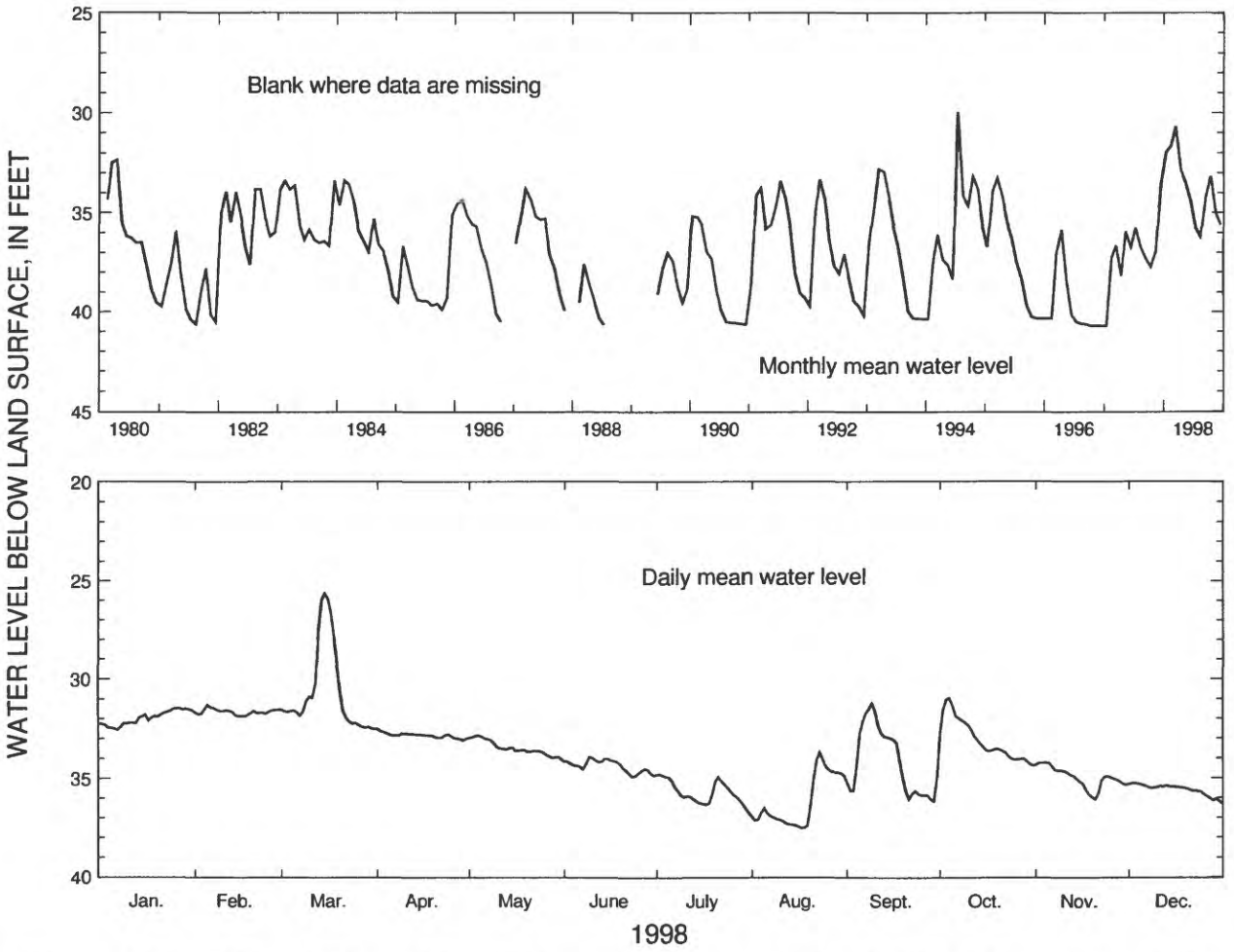


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.66	1.70	0.38	5.26	10.51	13.63	16.10	10.84	0.41	1.34	8.25	6.03
MEAN	2.75	3.10	3.42	7.26	12.19	15.07	17.53	12.17	7.07	5.19	9.34	10.39
LOW	3.75	4.08	5.07	10.16	13.54	16.48	18.49	14.40	13.29	8.53	10.42	11.87

SUMMARY FOR 1998 HIGH 0.38 (Mar. 8, 1998) MEAN 8.83 LOW 18.49 (July 26, 1998)

Figure 6. Water level in observation well 07H003, Miller County.

IDENTIFICATION NUMBER.—09G003.
LOCATION.—Lat 31°04′28″, long 84°31′05″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well DP-6.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sediments of Eocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 41 ft, cased to 30 ft, open hole.
DATUM.—Altitude of land-surface datum is 145 ft.
REMARKS.—Well can go dry during periods of decreased rainfall.
PERIOD OF RECORD.—February 1980 to current year. Continuous record since February 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 20.56 ft below land-surface datum, July 16, 1994; lowest, well goes dry.

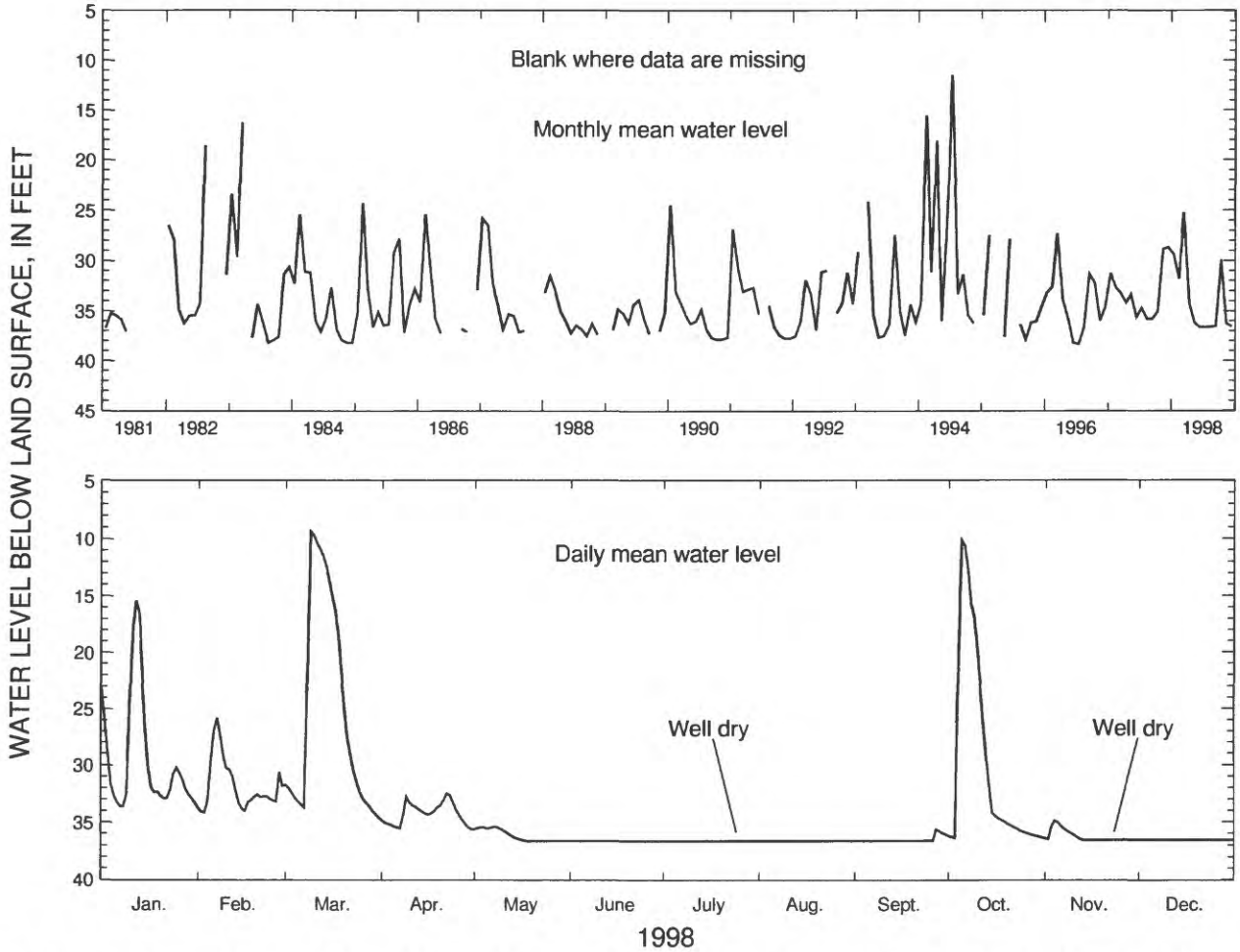


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	31.46	31.30	25.65	32.52	32.86	33.94	34.81	33.70	31.27	31.00	34.26	35.28
MEAN	31.97	31.66	30.68	32.84	33.48	34.40	35.71	36.18	34.19	33.11	35.00	35.61
LOW	32.56	31.89	32.53	33.10	34.05	34.94	36.74	37.52	36.17	34.39	36.09	36.31

SUMMARY FOR 1998 HIGH 25.65 (Mar. 15, 1998) MEAN 33.75 LOW 37.52 (Aug. 17, 1998)

Figure 7. Water level in observation well 09G003, Decatur County.

IDENTIFICATION NUMBER.—11J013.
LOCATION.—Lat 31°18′02″, long 84°19′23″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well DP-12.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sediments of Eocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 38 ft, cased to 21 ft, screen from 21 to 38 ft.
DATUM.—Altitude of land-surface datum is 165 ft.
REMARKS.—Well can go dry. Well dry, May 18 to September 26 and November 14 to December 31, 1998.
PERIOD OF RECORD.—January 1981 to current year. Continuous record since January 1981.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 9.40 ft below land-surface datum, March 9, 1998; lowest, well goes dry.

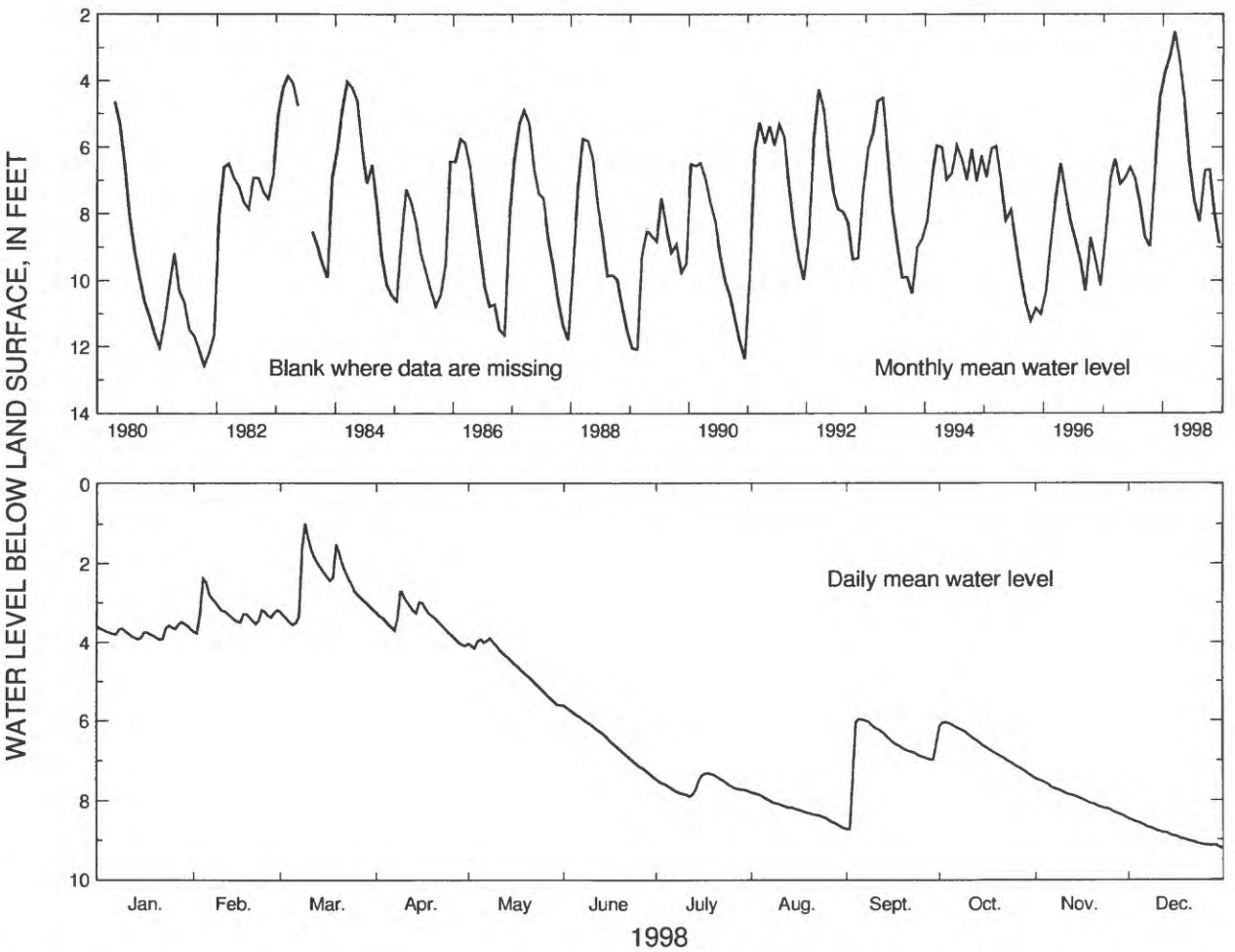


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	15.39	25.80	9.40	32.50	35.39	36.62	36.61	36.61	35.66	10.15	34.89	36.56
MEAN	29.36	31.81	25.19	34.23	36.18	36.62	36.62	36.61	36.51	29.91	36.26	36.56
LOW	33.61	34.14	34.56	35.60	36.62	36.62	36.62	36.61	36.61	36.38	36.56	36.57

SUMMARY FOR 1998 HIGH 9.40 (Mar. 9, 1998) MEAN 33.82 LOW 36.62 (May 18-July 27, 1998)

Figure 8. Water level in observation well 11J013, Mitchell County.

IDENTIFICATION NUMBER.—13M007.
LOCATION.—Lat 31°43′30″, long 84°00′54″, Hydrologic Unit 03130006.
SITE NAME.—U.S. Geological Survey, test well DP-9.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (residuum).
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 25 ft, cased to 10 ft, open hole.
DATUM.—Altitude of land-surface datum is 230 ft.
REMARKS.—None.
PERIOD OF RECORD.—April 1980 to current year. Continuous record since April 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.99 ft below land-surface datum, March 9, 1998; lowest, 13.03 ft below land-surface datum, October 22, 1981.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	3.48	2.38	0.99	2.65	3.89	5.62	7.32	7.80	5.97	6.05	7.46	8.48
MEAN	3.73	3.24	2.51	3.42	4.63	6.49	7.62	8.23	6.69	6.67	7.96	8.89
LOW	3.93	3.77	3.55	4.09	5.61	7.41	7.90	8.70	8.74	7.41	8.44	9.22

SUMMARY FOR 1998 HIGH 0.99 (Mar. 9, 1998) MEAN 5.86 LOW 9.22 (Dec. 31, 1998)

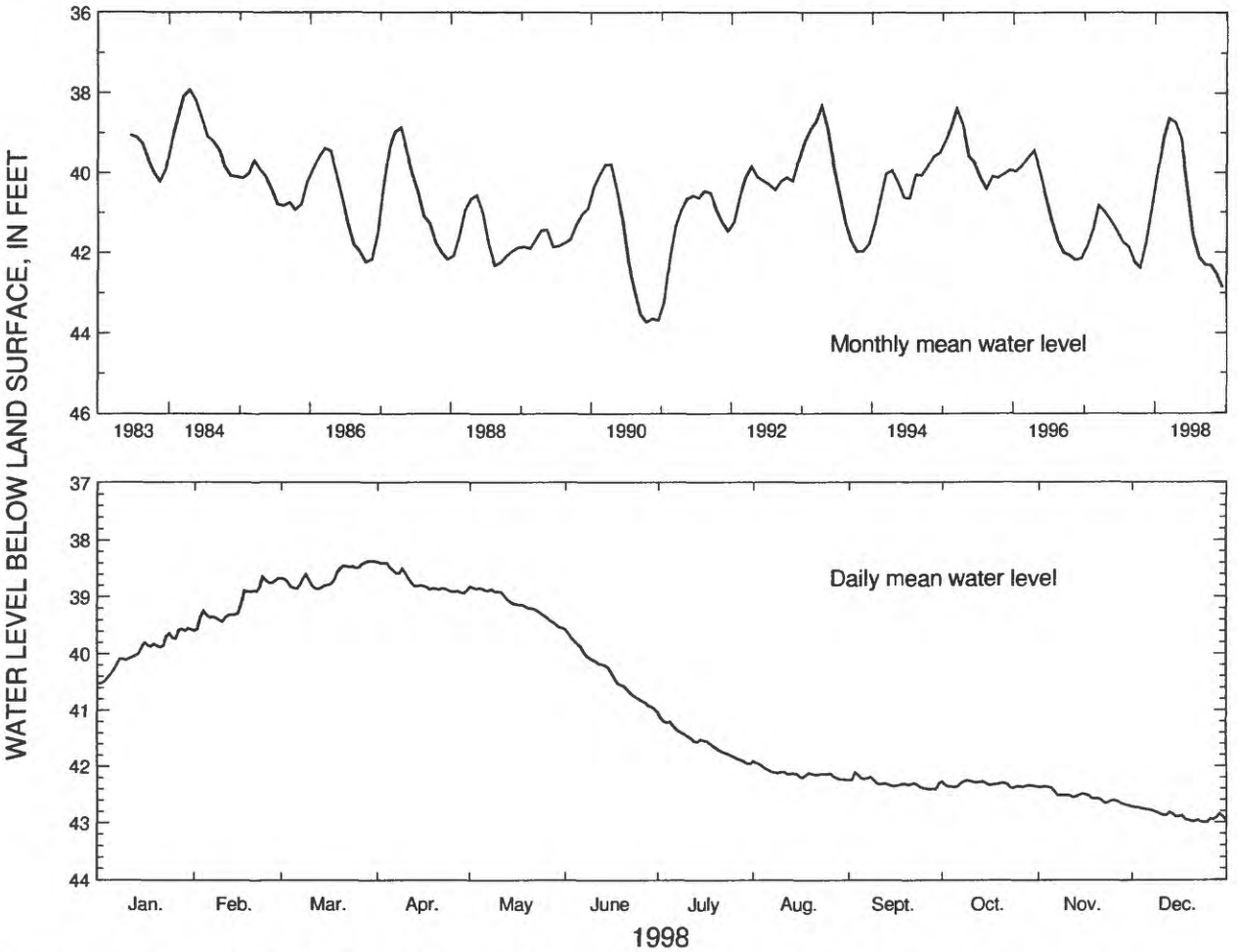
Figure 9. Water level in observation well 13M007, Worth County.

Coastal area

Water levels in surficial aquifers in the coastal area (fig.10) were monitored in six wells in 1998. Data from these wells are shown in figures 11-16.

Figure 10. Location of observation wells completed in surficial aqufers, coastal area.

IDENTIFICATION NUMBER.—32L017.
LOCATION.—Lat 31°32′52″, long 81°43′36″, Hydrologic Unit 03070106.
SITE NAME.—Georgia Geologic Survey, Gardi, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sand of Miocene and post-Miocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 215 ft, cased to 200 ft, screen from 200 to 215 ft.
DATUM.—Altitude of land-surface datum is 74 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1983 to current year. Continuous record since June 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 37.85 ft below land-surface datum, April 16, 1984; lowest, 43.91 ft below land-surface datum, October 8, 1990.

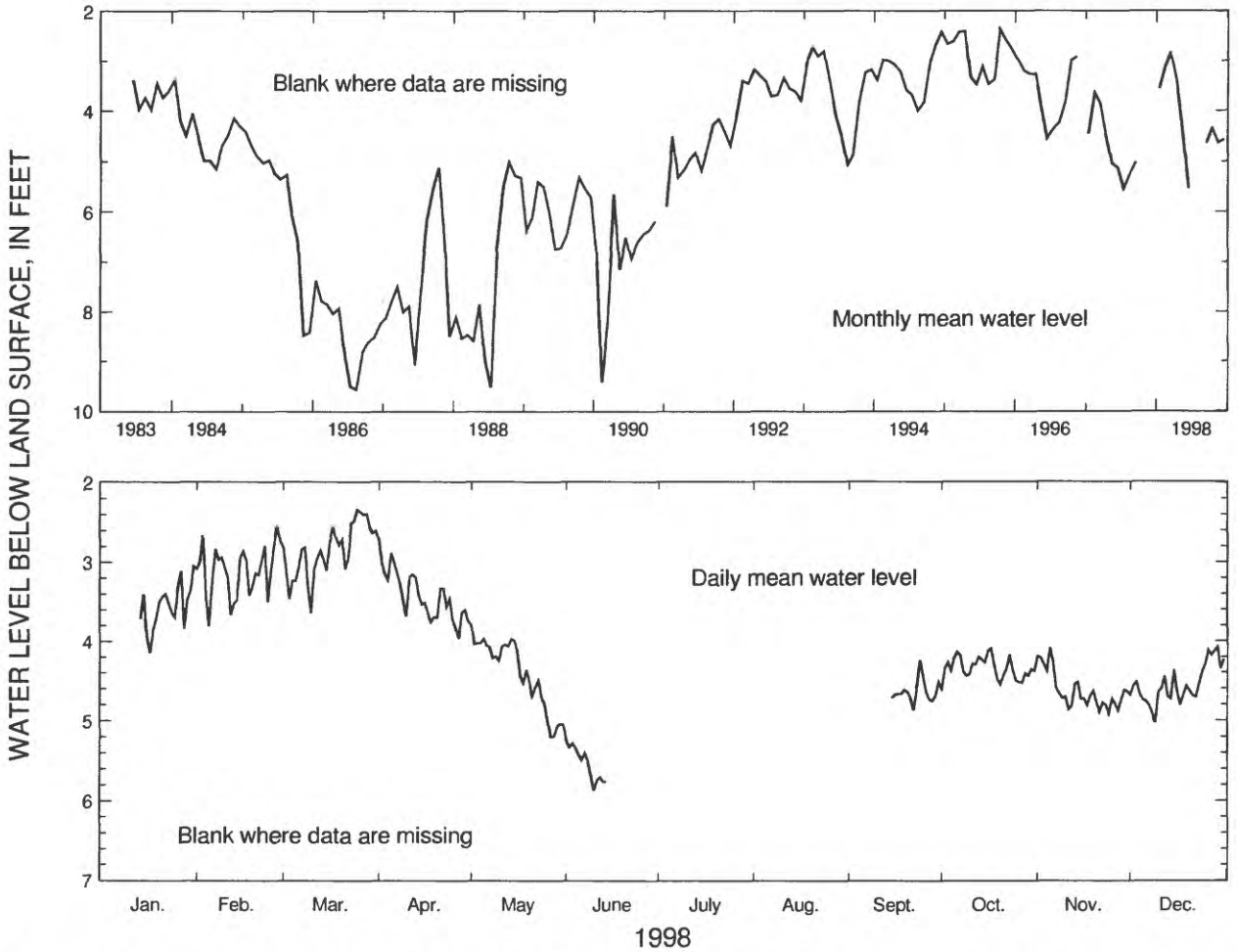


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	39.55	38.64	38.37	38.38	38.82	39.57	41.04	41.91	42.11	42.25	42.36	42.72
MEAN	39.96	39.12	38.63	38.73	39.12	40.34	41.56	42.12	42.30	42.32	42.54	42.87
LOW	40.52	39.59	38.86	38.94	39.54	40.98	41.96	42.24	42.41	42.38	42.70	43.00

SUMMARY FOR 1998 HIGH 38.37 (Mar. 29-31, 1998) MEAN 40.81 LOW 43.00 (Dec. 24-25, 1998)

Figure 11. Water level in observation well 32L017, Wayne County.

IDENTIFICATION NUMBER.—33H208.
LOCATION.—Lat 31°09′25″, long 81°31′22″, Hydrologic Unit 03070203.
SITE NAME.—Georgia-Pacific, south, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sand of Miocene and post-Miocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 155 ft, cased to 135 ft, screen 135 to 155 ft.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Water-level data for periods, January 1-13 and June 15 to September 14, 1998, are missing.
PERIOD OF RECORD.—June 1983 to current year. Continuous record since June 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 1.88 ft below land-surface datum, April 14, 1995, but may have been higher during period of missing record; lowest, 10.04 ft below land-surface datum, August 4, 1986.

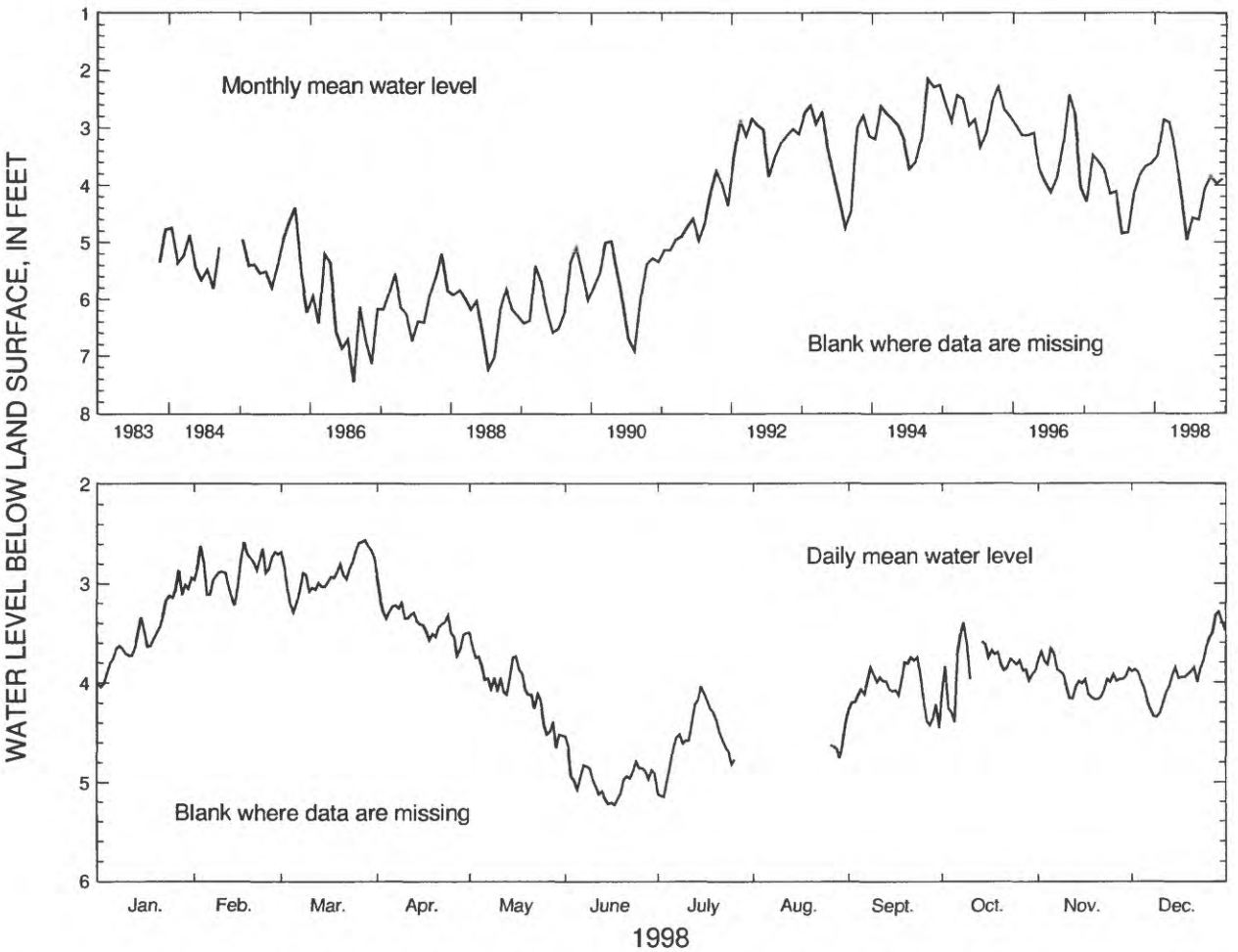


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	2.54	2.34	2.71	3.79	------	------	------	------	4.10	4.08	4.08
MEAN	------	3.11	2.85	3.42	4.40	------	------	------	------	4.35	4.63	4.56
LOW	------	3.81	3.64	3.96	5.20	------	------	------	------	4.61	4.91	5.03

SUMMARY FOR 1998 HIGH 2.34 (Mar. 25, 1998) MEAN 4.02 LOW 5.87 (June 10, 1998)

Figure 12. Water level in observation well 33H208, Glynn County.

IDENTIFICATION NUMBER.—34H438.
LOCATION.—Lat 31°09'01", long 81°28'44", Hydrologic Unit 03070203.
SITE NAME.—Georgia Geologic Survey, Coffin Park, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sand of Miocene and post-Miocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 202 ft, cased to 192 ft, screen from 192 to 202 ft.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Well pumped and sampled, June 2, 1998, for analysis of chloride concentration. Water-level data for periods, July 27 to August 25 and October 11-13, 1998, are missing.
PERIOD OF RECORD.—November 1983 to current year. Continuous record November 1983 to September 1984, and since January 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 1.54 ft below land-surface datum, October 16, 1994;

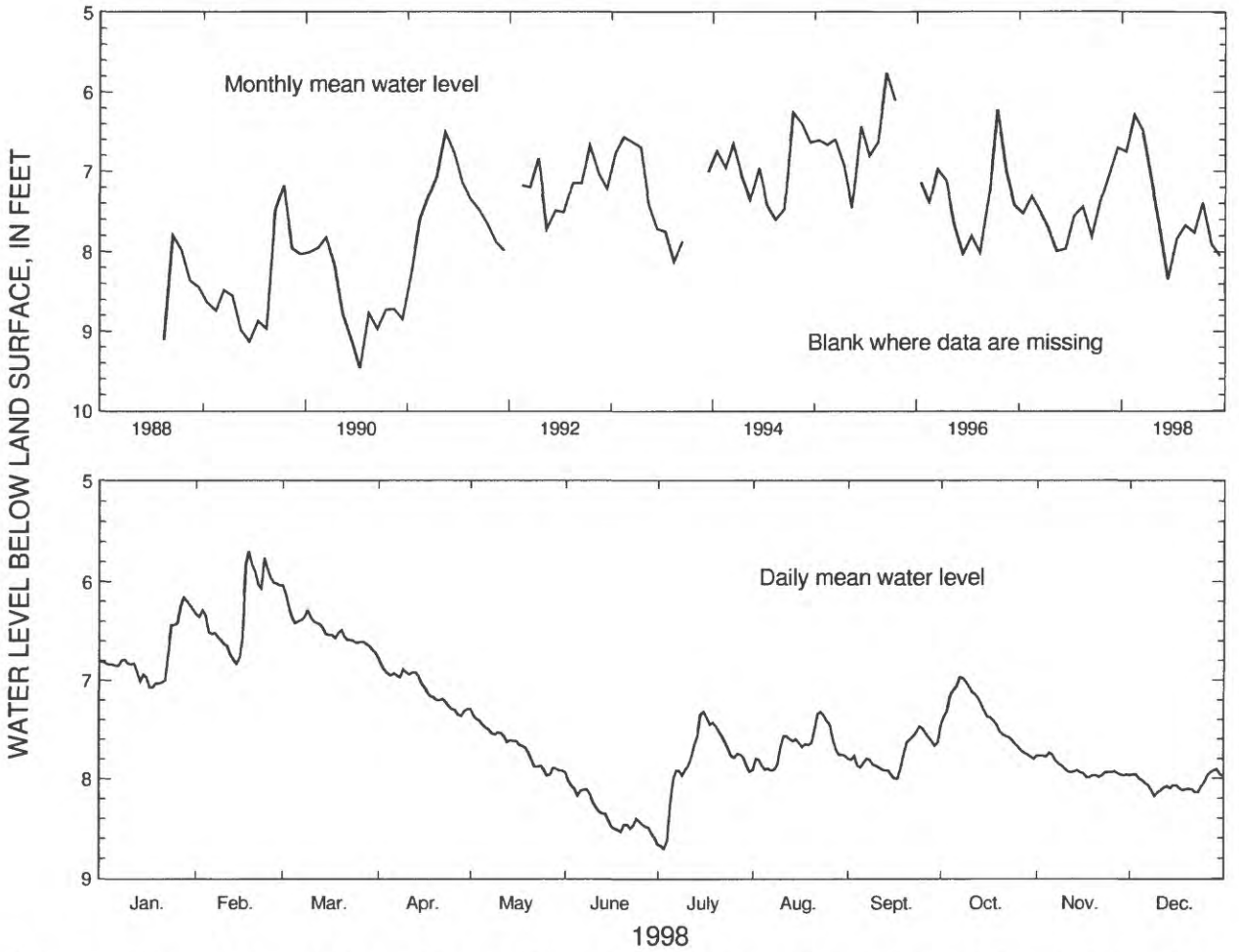


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	2.86	2.58	2.56	2.95	3.50	4.54	4.04	------	3.75	3.40	3.66	3.29
MEAN	3.49	2.86	2.90	3.38	4.07	4.96	4.57	------	4.06	3.84	3.97	3.89
LOW	4.04	3.22	3.29	3.73	4.65	5.23	5.15	------	4.46	4.40	4.17	4.35

SUMMARY FOR 1998 HIGH 2.56 (Mar. 28, 1998) MEAN 3.83 LOW 5.23 (June 17, 1998)

Figure 13. Water level in observation well 34H438, Glynn County.

IDENTIFICATION NUMBER.—34H447.
LOCATION.—Lat 31°09′11″, long 81°29′41″, Hydrologic Unit 03070203.
SITE NAME.—Glynn County Courthouse, shallow.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sand of Miocene or post-Miocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 180 ft, cased to 130 ft, open hole.
DATUM.—Altitude of land-surface datum is 10 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1988 to current year. Continuous record since August 1988.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.92 ft below land-surface datum, October 8, 1996; lowest, 9.63 ft below land-surface datum, July 21, 1990.

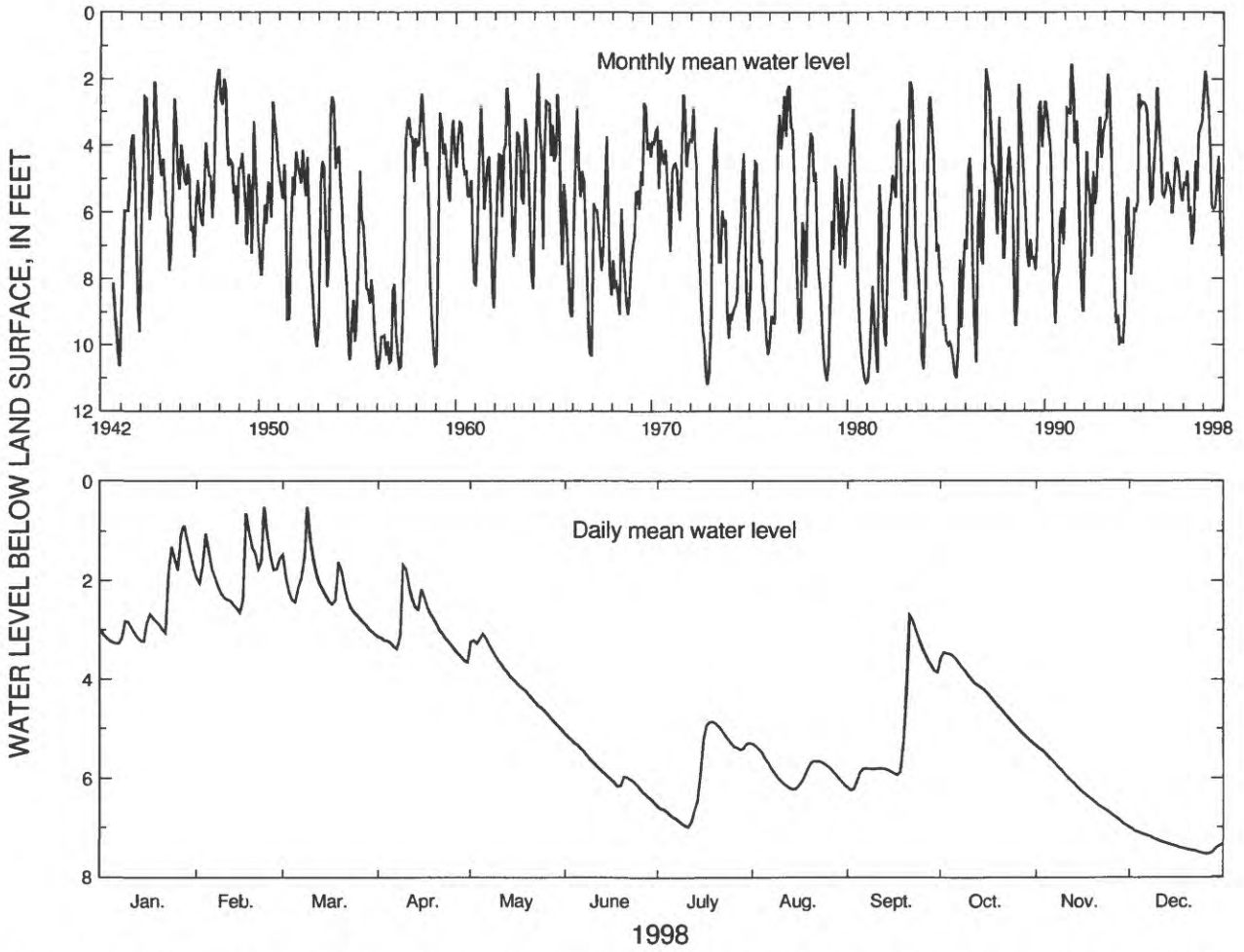


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	6.16	5.70	6.04	6.78	7.29	7.94	7.32	7.32	7.47	6.97	7.74	7.91
MEAN	6.75	6.29	6.48	7.08	7.67	8.34	7.84	7.67	7.76	7.39	7.90	8.05
LOW	7.07	6.83	6.72	7.36	7.97	8.59	8.70	7.92	8.00	7.80	7.99	8.18

SUMMARY FOR 1998 HIGH 5.70 (Feb. 18, 1998) MEAN 7.44 LOW 8.70 (July 3, 1998)

Figure 14. Water level in observation well 34H447, Glynn County.

IDENTIFICATION NUMBER.—35P094.
LOCATION.—Lat 31°59′50″, long 81°16′12″, Hydrologic Unit 03060204.
SITE NAME.—University of Georgia, Bamboo Farm.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sand of Holocene and Pleistocene age).
WELL CHARACTERISTICS.—Bored observation well, diameter 30 in., depth 15 ft, cased to 15 ft, open end.
DATUM.—Altitude of land-surface datum is 18.67 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1942 to current year. Continuous record since August 1942.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.05 ft below land-surface datum, September 26, 1953; lowest, 12.28 ft below land-surface datum, November 30, 1972.

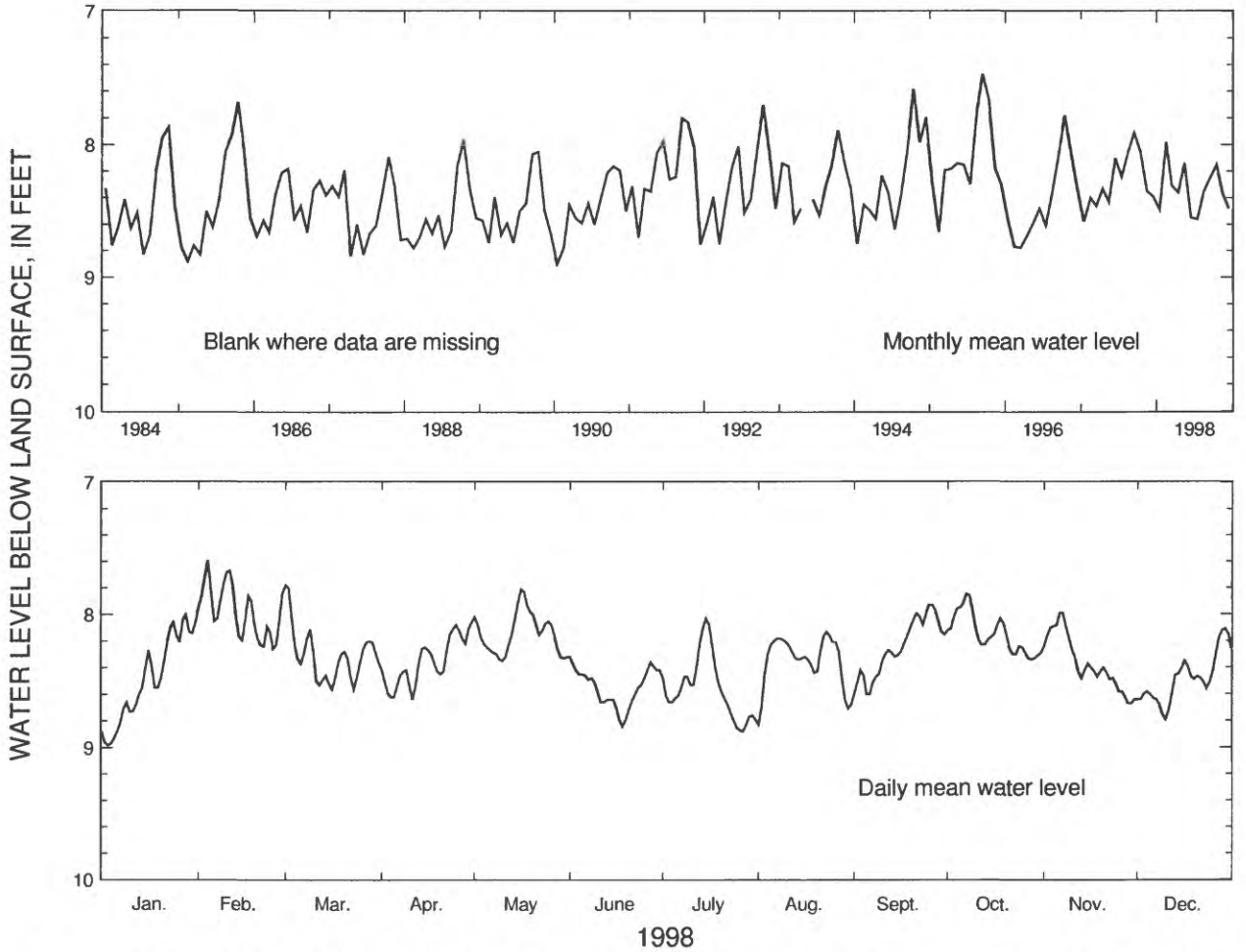


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.86	0.51	0.52	1.68	3.08	5.12	4.87	5.32	2.71	3.46	5.37	7.01
MEAN	2.57	1.76	2.21	2.93	4.04	5.87	5.91	5.85	4.99	4.33	6.21	7.33
LOW	3.27	2.65	3.09	3.66	5.05	6.50	6.99	6.23	6.24	5.32	6.97	7.54

SUMMARY FOR 1998 HIGH 0.51 (Feb. 23, 1998) MEAN 4.52 LOW 7.54 (Dec. 26, 1998)

Figure 15. Water level in observation well 35P094, Chatham County.

IDENTIFICATION NUMBER.—37P116.
LOCATION.—Lat 31°59′06″, long 81°01′12″, Hydrologic Unit 03060204.
SITE NAME.—Georgia Geologic Survey, Skidaway Institute, test well 4.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Surficial (sand of Miocene and post-Miocene age).
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 85 ft, cased to 70 ft, screen from 70 to 85 ft.
DATUM.—Altitude of land-surface datum is 10 ft.
REMARKS.—None.
PERIOD OF RECORD.—January 1984 to current year. Continuous record since January 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 6.93 ft below land-surface datum, October 13-14, 1994; lowest, 9.27 ft below land-surface datum, March 17, 1993.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	8.00	7.59	7.78	8.06	7.81	8.32	8.03	8.13	7.93	7.85	7.99	8.11
MEAN	8.49	7.98	8.31	8.36	8.14	8.55	8.56	8.35	8.25	8.15	8.37	8.48
LOW	8.98	8.26	8.56	8.64	8.35	8.84	8.88	8.83	8.60	8.34	8.67	8.79

SUMMARY FOR 1998 HIGH 7.59 (Feb. 4, 1998) MEAN 8.33 LOW 8.98 (Jan. 3, 1998)

Figure 16. Water level in observation well 37P116, Chatham County.

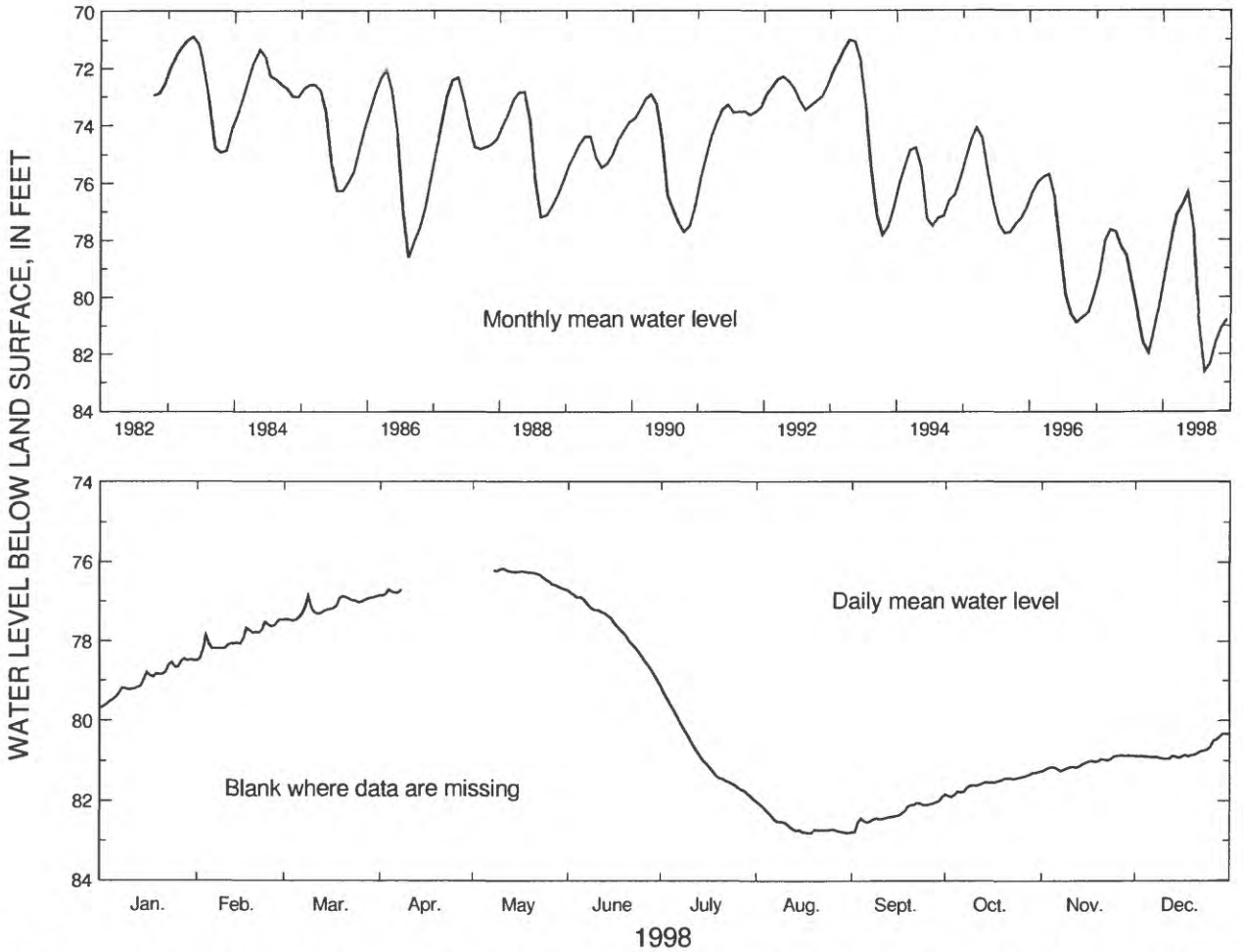
Upper Brunswick Aquifer

The water level in the upper Brunswick aquifer was monitored in three wells (fig. 17) in 1998 and data for these wells are summarized in figures 18-20. The upper Brunswick aquifer responds to pumping from the Upper Floridan aquifer as a result of the hydraulic connection between the aquifers (Clarke and others, 1990, p. 28). Elsewhere, the water level mainly responds to seasonal variations in recharge and discharge.

The upper Brunswick aquifer in Bulloch County is under unconfined to semiconfined conditions and is influenced by variations in recharge from precipitation and by pumping from the Upper Floridan aquifer (Clarke and others, 1990, p. 28). In the Wayne and Glynn County areas, the upper Brunswick aquifer is confined and responds to nearby pumping (Clarke and others, 1990, p. 28).

Figure 17. Location of observation wells completed in upper Brunswick aquifer. (The extent of the upper Brunswick aquifer has not been mapped, but is within the area of Miocene deposits shown.)

IDENTIFICATION NUMBER.—31U009.
LOCATION.—Lat 32°31'23", long 81°51'16", Hydrologic Unit 03060202.
SITE NAME.—Georgia Geologic Survey, Hopeulikit, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Brunswick.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 210 ft, cased to 160 ft, screen from 160 to 210 ft.
DATUM.—Altitude of land-surface datum is 205 ft.
REMARKS.—Water-level data for period, April 9 to May 7, 1998, are missing.
PERIOD OF RECORD.—October 1982 to current year. Continuous record since October 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 70.77 ft below land-surface datum, April 24, 1983; lowest, 82.81 ft below land-surface datum, August 18, 1998.

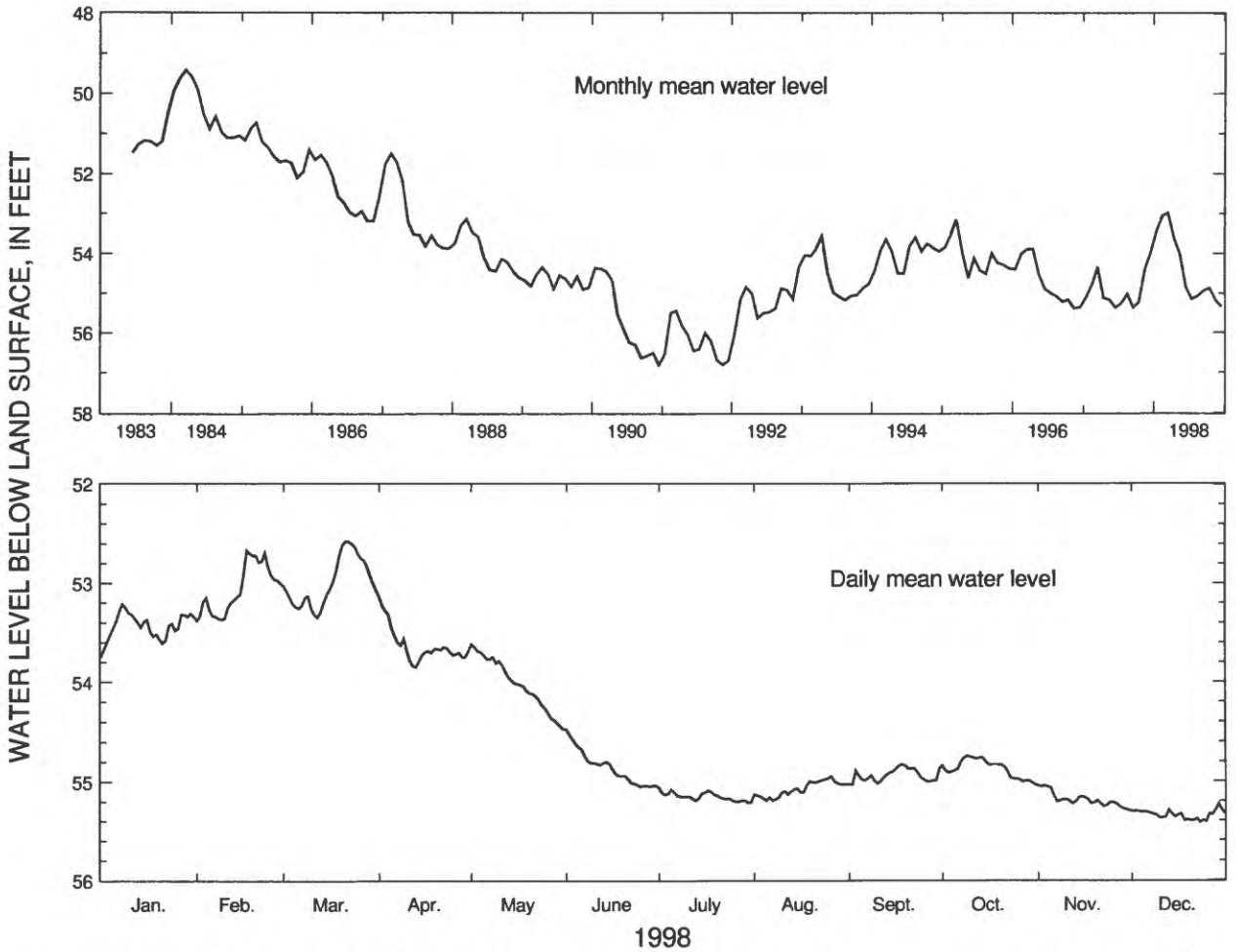


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	78.45	77.46	76.87	------	------	76.72	79.14	82.01	81.90	81.28	80.87	80.33
MEAN	78.99	77.93	77.13	------	------	77.65	80.85	82.61	82.31	81.56	81.06	80.78
LOW	79.68	78.50	77.48	------	------	79.00	81.95	82.81	82.79	81.90	81.26	80.95

SUMMARY FOR 1998 HIGH 76.17 (May 11, 1998) MEAN 79.76 LOW 82.81 (Aug. 18, 1998)

Figure 18. Water level in observation well 31U009, Bulloch County.

IDENTIFICATION NUMBER.—32L016.
LOCATION.—Lat 31°32'52", long 81°43'36", Hydrologic Unit 03070106.
SITE NAME.—Georgia Geologic Survey, Gardi, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Brunswick.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 340 ft, cased to 320 ft, screen from 320 to 340 ft.
DATUM.—Altitude of land-surface datum is 74 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1983 to current year. Continuous record since June 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 49.26 ft below land-surface datum, March 20, 1984; lowest, 56.93 ft below land-surface datum, January 9, 1991.

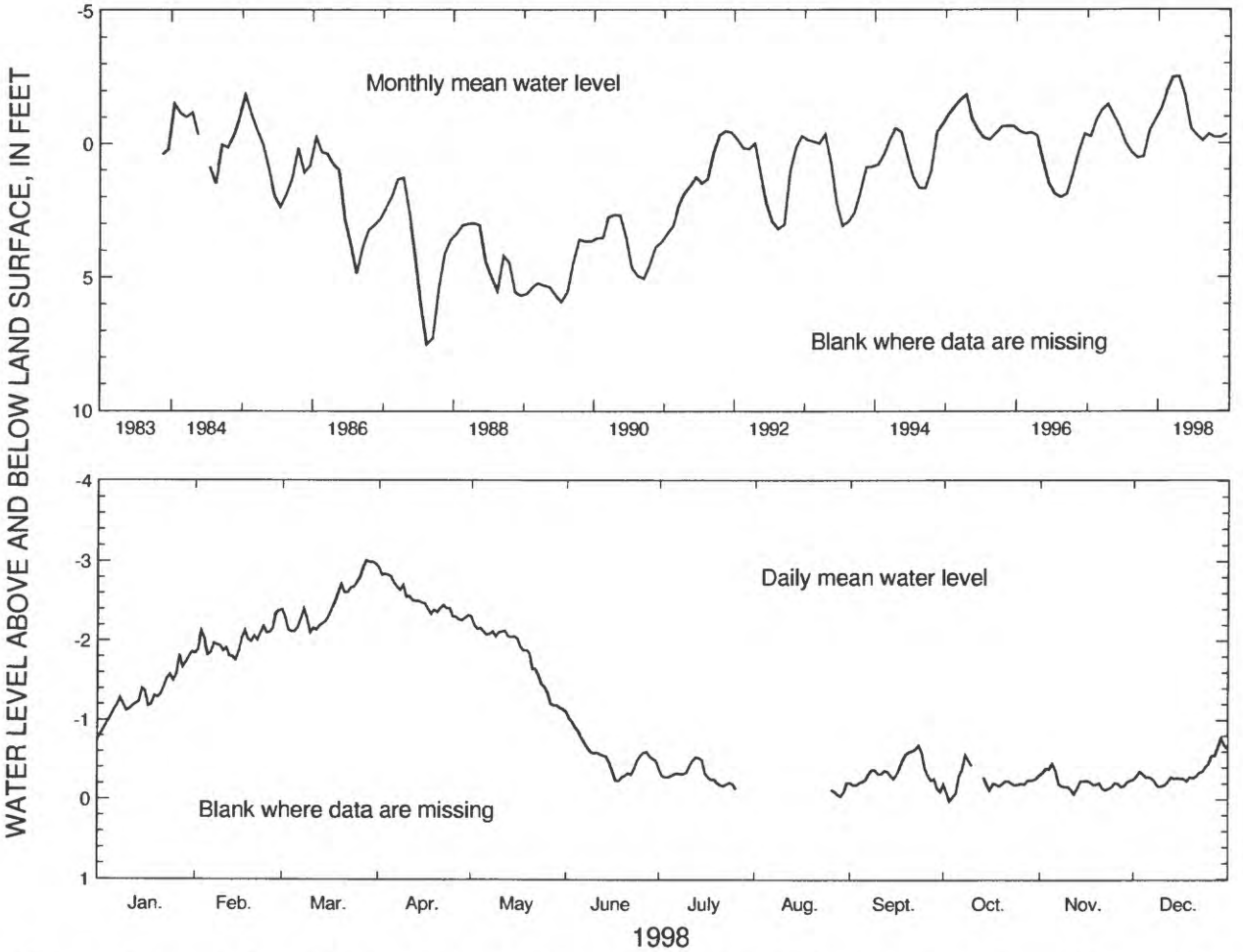


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	53.21	52.67	52.58	53.14	53.62	54.47	55.06	54.95	54.83	54.74	55.04	55.23
MEAN	53.43	53.06	52.99	53.63	54.02	54.85	55.15	55.08	54.94	54.87	55.18	55.34
LOW	53.75	53.38	53.35	53.85	54.47	55.05	55.21	55.19	55.03	55.03	55.29	55.42

SUMMARY FOR 1998 HIGH 52.58 (Mar. 21-22, 1998) MEAN 54.39 LOW 55.42 (Dec. 23, 1998)

Figure 19. Water level in observation well 32L016, Wayne County.

IDENTIFICATION NUMBER.—34H437.
LOCATION.—Lat 31°09′01″, long 81°28′44″, Hydrologic Unit 03070203.
SITE NAME.—Georgia Geologic Survey, Coffin Park, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Brunswick.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 328 ft, cased to 315 ft, screen from 315 to 328 ft.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Water-level data for periods, July 27 to August 25 and October 11-13, 1998, are missing.
PERIOD OF RECORD.—November 1983 to current year. Continuous record since November 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 3.01 ft above land-surface datum, March 28, 1998; lowest, 7.80 ft below land-surface datum, August 30, 1987.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-1.86	-2.38	-3.01	-2.92	-2.31	-1.11	-0.53	------	-0.68	-0.56	-0.45	-0.77
MEAN	-1.32	-2.00	-2.48	-2.52	-1.82	-0.57	-0.31	------	-0.35	-0.22	-0.22	-0.35
LOW	-0.77	-1.76	-2.10	-2.26	-1.14	-0.23	-0.13	------	-0.10	0.02	-0.07	-0.16

SUMMARY FOR 1998 HIGH -3.01 (Mar. 28, 1998) MEAN -1.10 LOW 0.02 (Oct. 3, 1998)

[Negative value indicates water level above land surface]

Figure 20. Water level in observation well 34H437, Glynn County.

Floridan Aquifer System

Water levels in the Floridan aquifer system were monitored in 80 wells in 1998; data for 50 of these wells are summarized in this report. The Floridan aquifer system includes the Upper and Lower Floridan aquifers (table 2). In and near outcrop areas, the Upper Floridan aquifer is semiconfined and water levels in wells tapping the aquifer fluctuate seasonally in response to variations in recharge rate and pumping (Clarke and others, 1990). Near the coast, where the Upper Floridan aquifer is confined, water levels respond primarily to pumping, and fluctuations related to recharge are less pronounced (Clarke and others, 1990, p. 31). Most of the water withdrawn from the Floridan aquifer system is from the Upper Floridan aquifer; a few wells in the Savannah area withdraw water from the Lower Floridan aquifer. In this report, wells that tap both the Upper and Lower Floridan aquifers or wells located in an area of the State where the Upper and Lower Floridan aquifers cannot be distinguished are listed as the Floridan aquifer (fig. 21); data from these wells are summarized in figures 22-24.

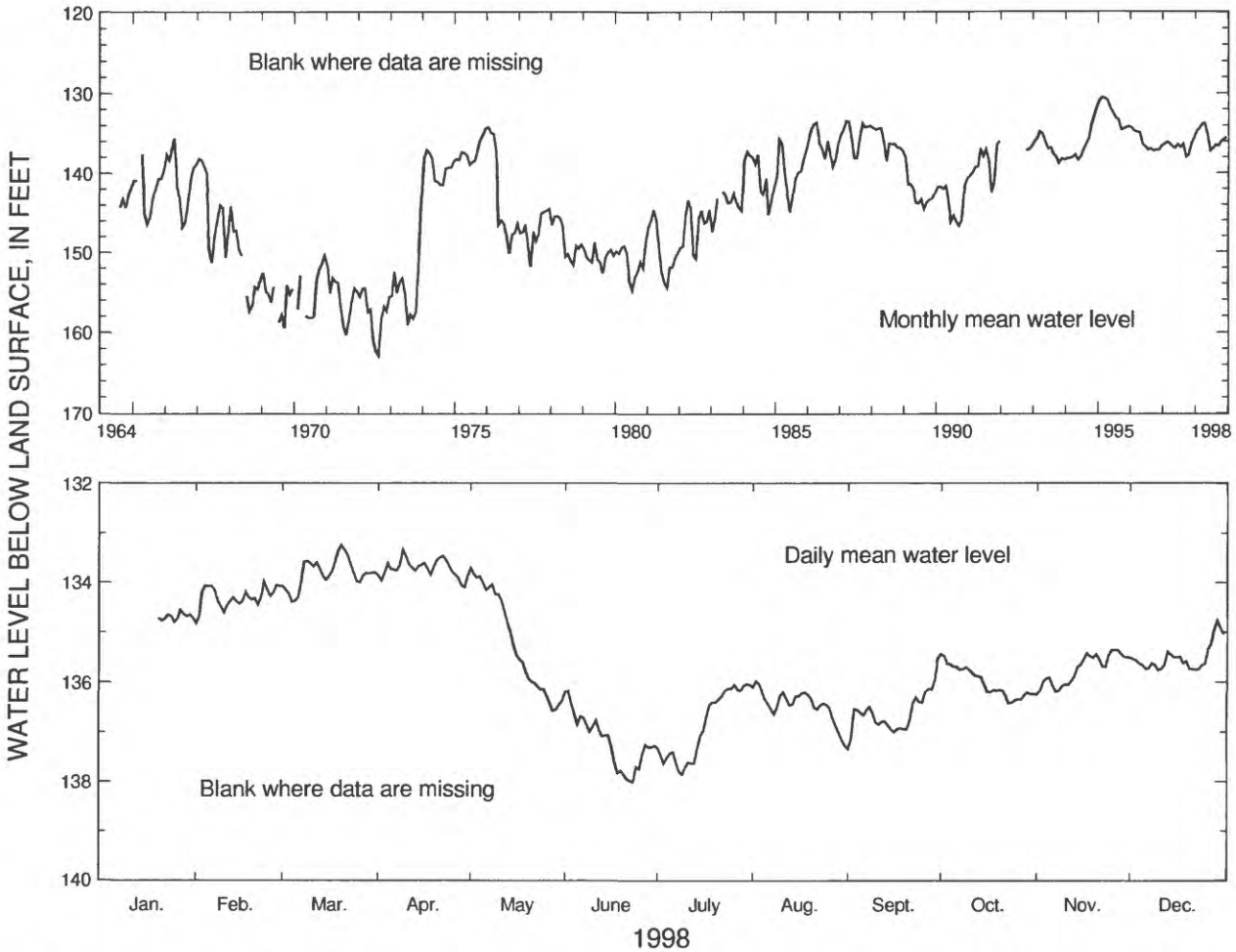
Base modified from U.S.Geological Survey
State base map

EXPLANATION

● 12F036 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 21. Location of observation wells completed in Floridan aquifer system.

IDENTIFICATION NUMBER.—12F036.
LOCATION.—Lat 30°52′35″, long 84°12′51″, Hydrologic Unit 03120002.
SITE NAME.—U.S. Geological Survey, Cairo.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 467 ft, cased to 458 ft, open hole.
DATUM.—Altitude of land-surface datum is 204.55 ft.
REMARKS.—Well was back filled from 971 ft to 467 ft. Water-level data for period, January 1-19, 1998, are missing.
PERIOD OF RECORD.—August 1964 to current year. Continuous record since August 1964.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 130.14 ft below land-surface datum, February 20, 1995; lowest, 166.55 ft below land-surface datum, August 22, 1972.

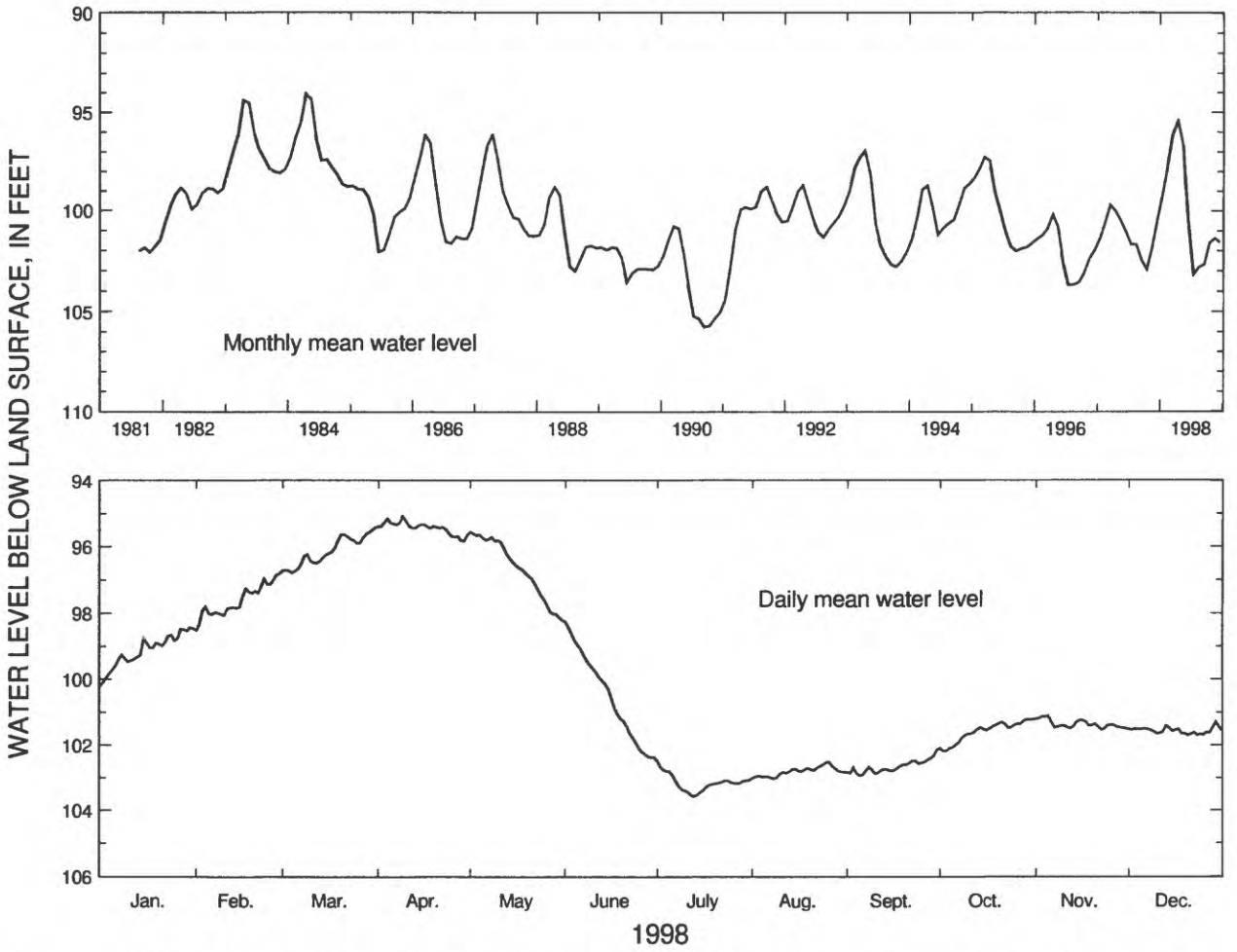


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	133.99	133.25	133.34	133.71	136.18	136.04	135.98	135.52	135.44	135.37	134.77
MEAN	------	134.30	133.81	133.72	135.21	137.19	136.89	136.45	136.61	136.01	135.75	135.51
LOW	------	134.82	134.39	134.10	136.57	138.01	137.85	137.27	137.34	136.42	136.25	135.76

SUMMARY FOR 1998 HIGH 133.25 (Mar. 20, 1998) MEAN 135.56 LOW 138.01 (June 23, 1998)

Figure 22. Water level in observation well 12F036, Grady County.

IDENTIFICATION NUMBER.—27G003.
LOCATION.—Lat 31°07′06″, long 82°15′56″, Hydrologic Unit 03110201.
SITE NAME.—U.S. Geological Survey, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 14 in., depth 1,970 ft, cased to 635 ft, open hole.
DATUM.—Altitude of land-surface datum is 150 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1981 to current year. Continuous record since August 1981.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 93.63 ft below land-surface datum, May 3, 1984; lowest,106.06 ft below land-surface datum, October 7, 1990.

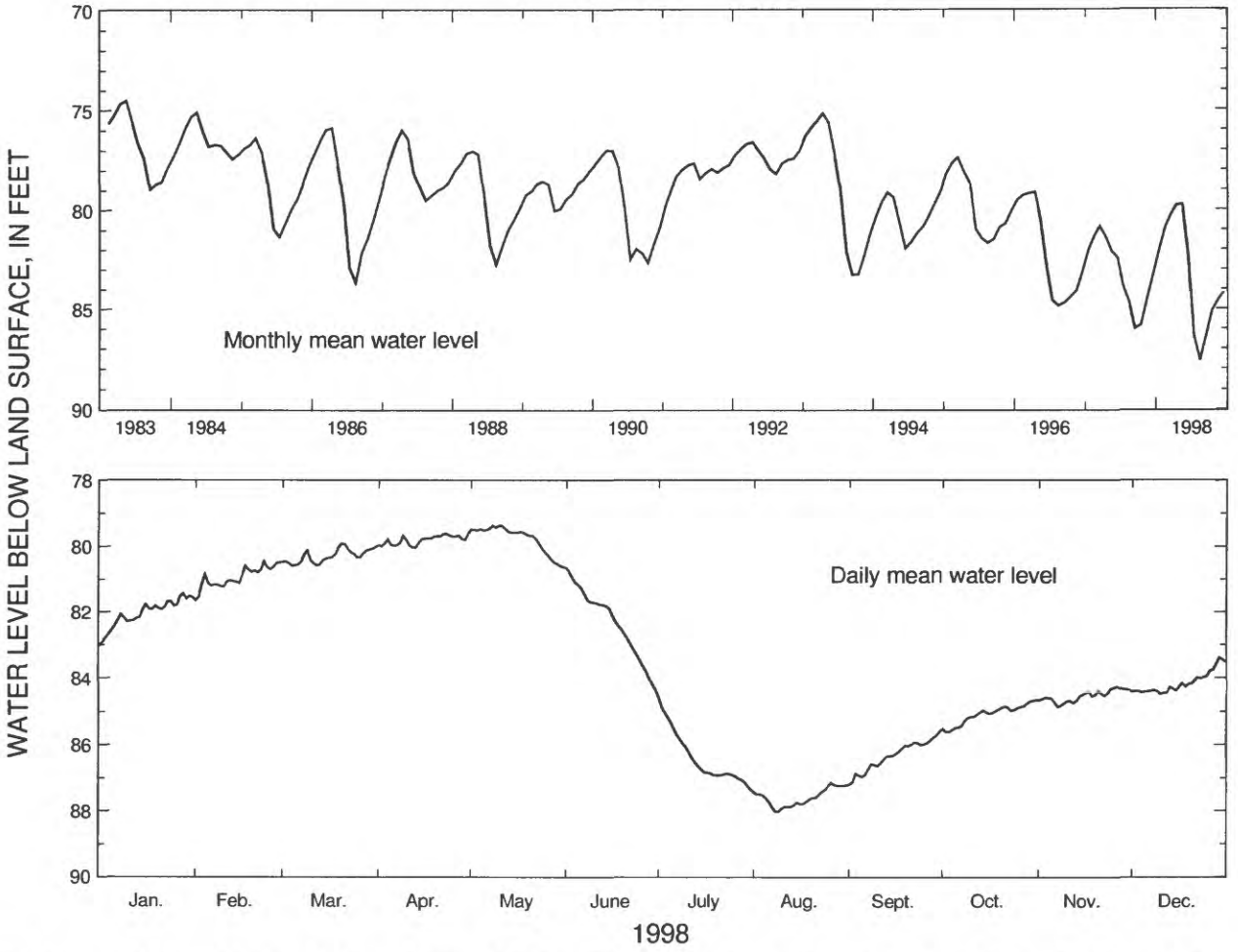


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	98.43	96.81	95.43	95.08	95.56	98.26	102.49	102.52	102.15	101.22	101.12	101.30
MEAN	99.13	97.62	96.14	95.43	96.66	100.52	103.16	102.81	102.67	101.60	101.37	101.57
LOW	100.19	98.51	96.79	95.83	98.22	102.38	103.58	103.03	102.94	102.18	101.54	101.70

SUMMARY FOR 1998 HIGH 95.08 (Apr. 9, 1998) MEAN 99.91 LOW 103.58 (July 13, 1998)

Figure 23. Water level in observation well 27G003, Ware County.

IDENTIFICATION NUMBER.—31U008.
LOCATION.—Lat 32°31′23″, long 81°51′16″, Hydrologic Unit 03060202.
SITE NAME.—Georgia Geologic Survey, Hopeulikit, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 860 ft, cased to 315 ft, open hole.
DATUM.—Altitude of land-surface datum is 205 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1983 to current year. Continuous record since February 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 74.26 ft below land-surface datum, April 24, 1983; lowest, 88.03 ft below land-surface datum, August 9, 1998.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	81.44	80.45	79.91	79.61	79.36	80.64	84.60	87.14	85.60	84.68	84.28	83.40
MEAN	82.05	80.93	80.29	79.80	79.75	82.31	86.40	87.59	86.34	85.10	84.55	84.15
LOW	83.02	81.65	80.58	80.03	80.62	84.36	87.35	88.03	87.20	85.62	84.87	84.49

SUMMARY FOR 1998 HIGH 79.36 (May 8, 10-11 1998) MEAN 83.29 LOW 88.03 (Aug. 9, 1998)

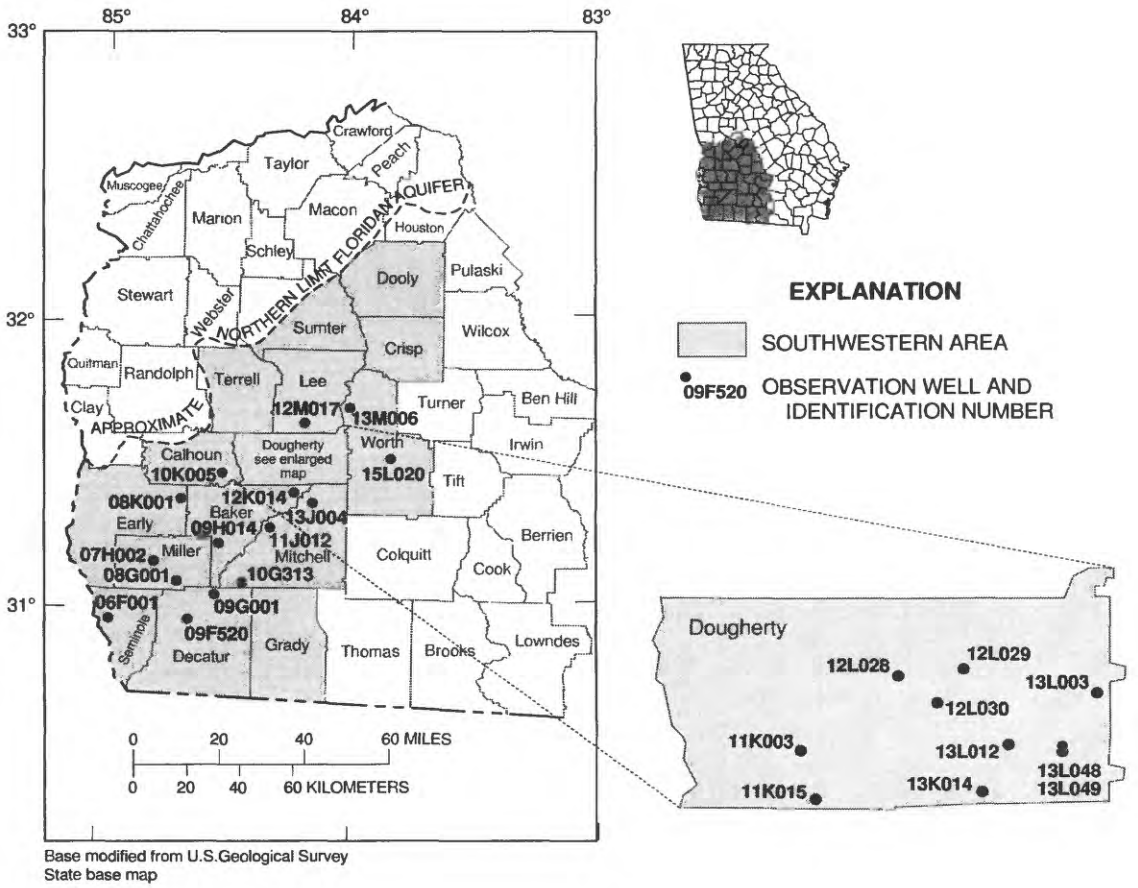
Figure 24. Water level in observation well 31U008, Bulloch County.

Upper Floridan aquifer

The water level in the Upper Floridan aquifer is monitored in 64 wells and data for 61 of these wells (figures 25, 51, 55, 59, 70, 74, and 86) are summarized in this report. For this report, the Upper Floridan aquifer is divided into seven areas: (1) the southwestern area; (2) the south-central area; (3) the east-central area; (4) the Savannah area; (5) the Jesup-Doctortown area; (6) the Brunswick area; and (7) the St Marys-Okefenokee Swamp area. These areas were divided on the basis of similar hydrologic settings.

Southwestern area

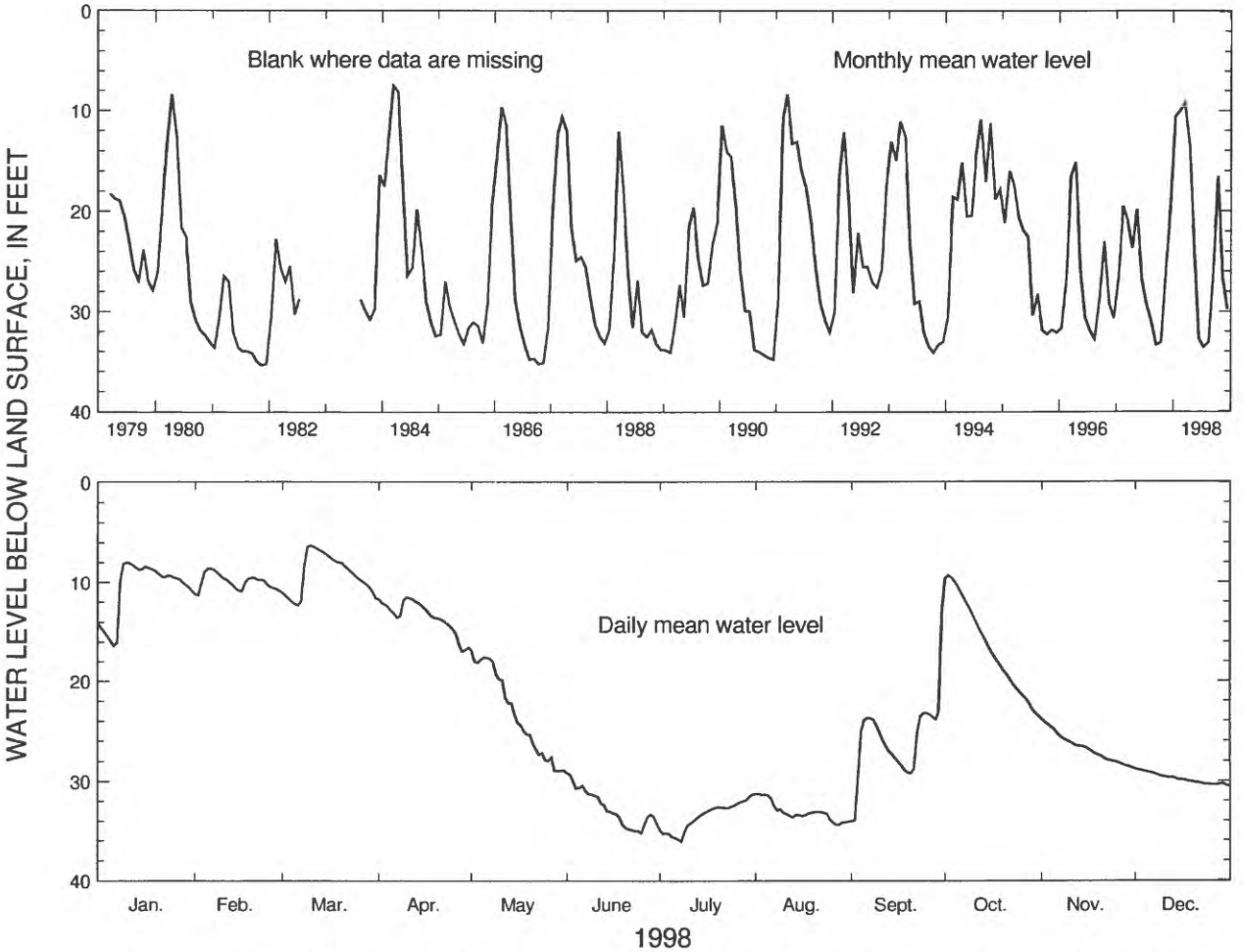
The water level in the Upper Floridan aquifer in southwestern Georgia was monitored in 29 wells in 1998; data for 25 of these wells (fig. 25) are summarized in figures 26-50. In the southwestern area, water levels in wells tapping the Upper Floridan aquifer respond to variations in precipitation, evapotranspiration, pumping, and streamflow (Hayes and others, 1983). In areas near the Flint River or its tributaries, the aquifer is hydraulically connected to the streams which can influence water level. In areas away from the Flint River and its tributaries, the Upper Floridan aquifer is confined by thicker overburden, is not well connected to streams, and the water level is not directly influenced by precipitation (Torak and others, 1991).



Base modified from U.S.Geological Survey
State base map

Figure 25. Location of observation wells completed in Upper Floridan aquifer, southwestern area.

IDENTIFICATION NUMBER.—06F001.
LOCATION.—Lat 30°54′01″, long 84°53′40″, Hydrologic Unit 03130004.
SITE NAME.—Roddenbery Company Farms, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 150 ft, cased to 98.5 ft, open hole.
DATUM.—Altitude of land-surface datum is 110 ft.
REMARKS.—None.
PERIOD OF RECORD.—March 1979 to July 1982, August 1983 to current year. Continuous record March 1979 to July 1982, and since August 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.13 ft below land-surface datum, March 8, 1984; lowest, 36.04 ft below land-surface datum, July 8, 1998.

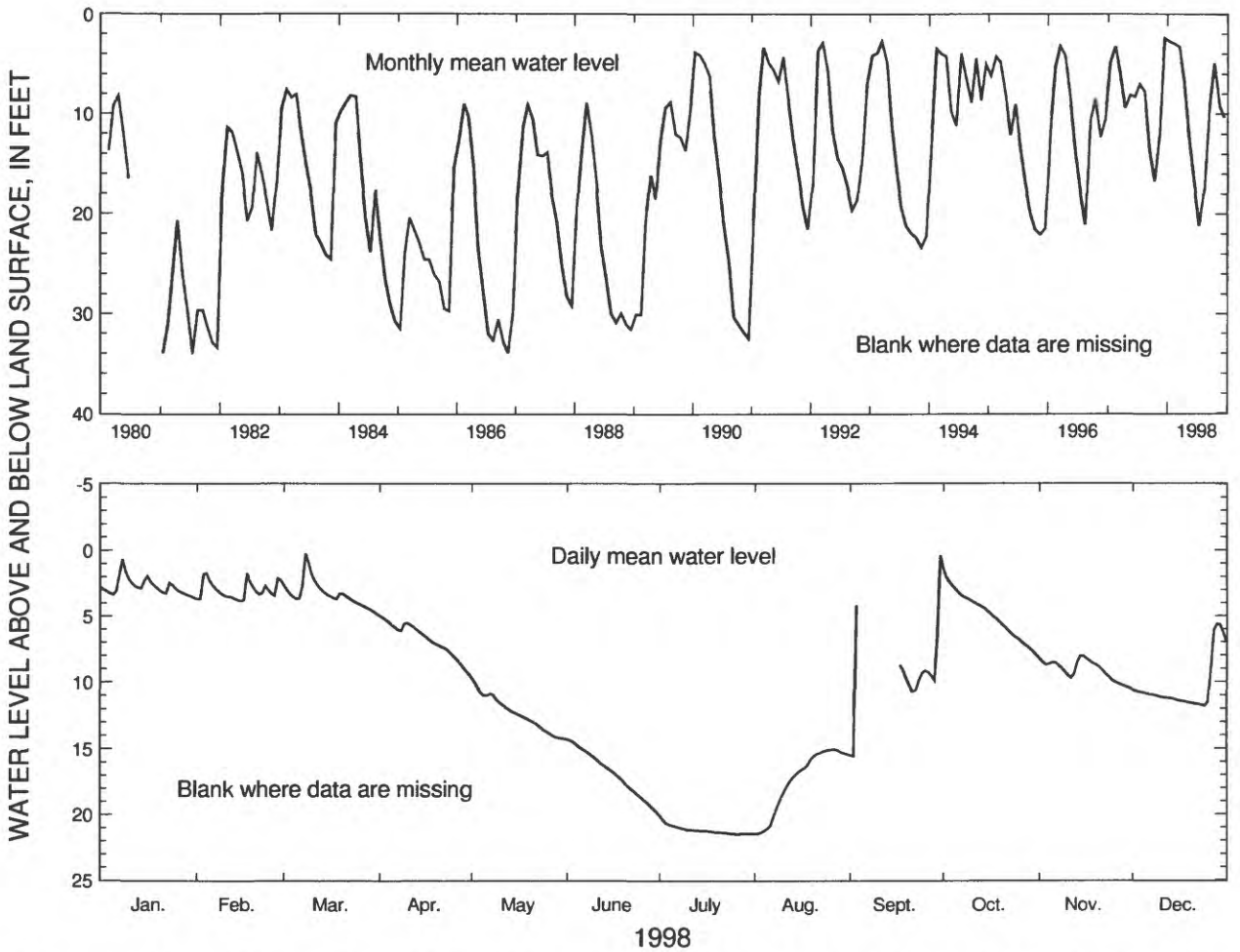


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	8.00	8.61	6.28	11.52	16.87	29.16	31.34	31.26	12.93	9.34	23.82	28.78
MEAN	10.55	9.95	9.15	13.44	23.25	32.69	33.57	33.07	25.87	16.57	26.70	29.80
LOW	16.36	11.29	12.31	16.98	28.95	35.20	36.04	34.39	34.01	23.52	28.68	30.51

SUMMARY FOR 1998 HIGH 6.28 (Mar. 10, 1998) MEAN 22.12 LOW 36.04 (July 8, 1998)

Figure 26. Water level in observation well 06F001, Seminole County.

IDENTIFICATION NUMBER.—07H002.
LOCATION.—Lat 31°10'09", long 84°49'55", Hydrologic Unit 03130010.
SITE NAME.—U.S. Geological Survey, test well DP-2.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 75 ft, cased to 64 ft, open hole.
DATUM.—Altitude of land-surface datum is 180 ft.
REMARKS.—Water-level data for period, September 4-16, 1998, are missing.
PERIOD OF RECORD.—February 1980 to current year. Continuous record since January 1981.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.22 ft below land-surface datum, March 8, 1998; lowest, 36.00 ft below land-surface datum, August 11, 1986.

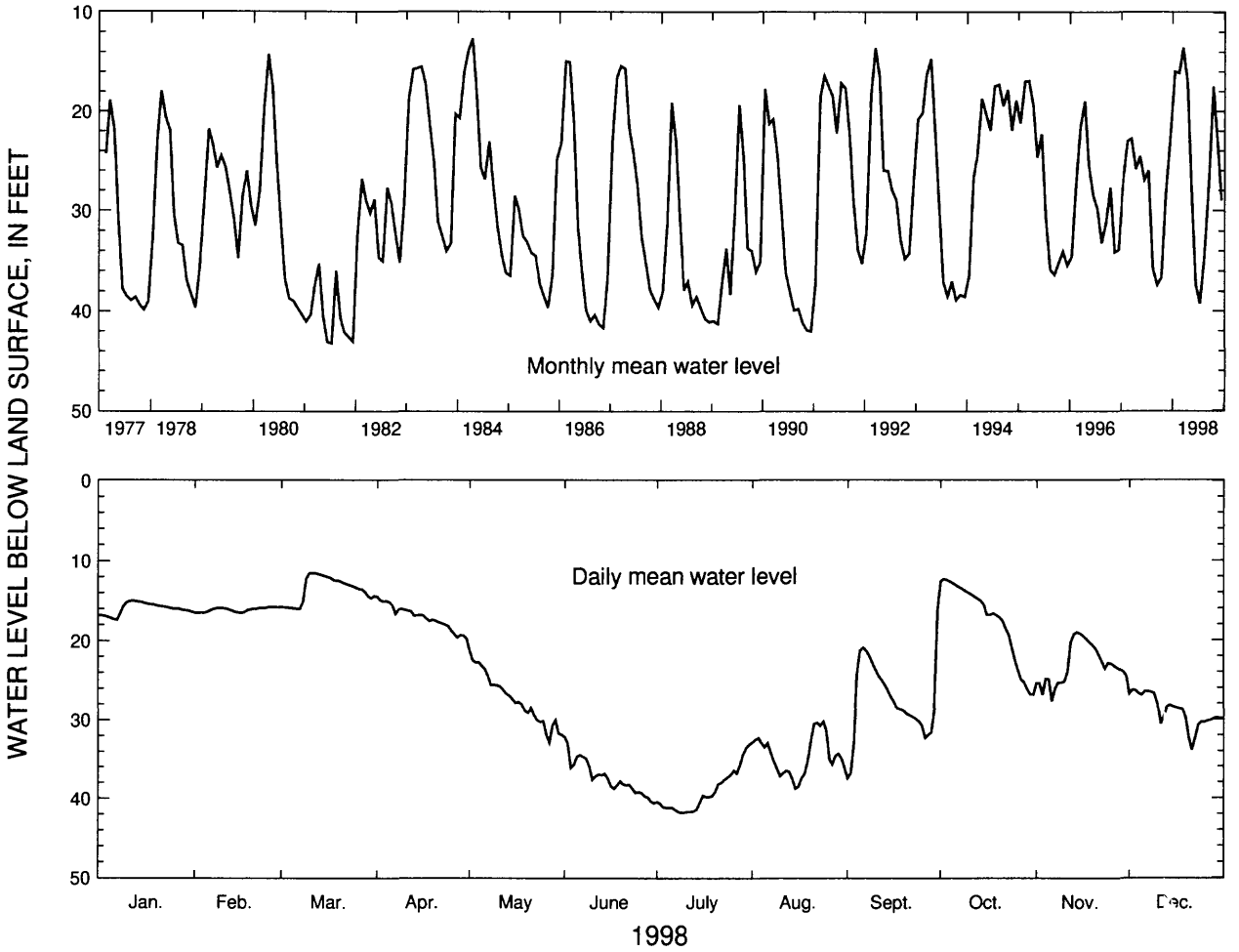


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.66	1.70	0.22	4.95	9.68	14.32	20.07	15.08	------	1.43	8.06	5.62
MEAN	2.74	2.98	3.28	6.74	12.32	16.85	21.17	17.42	------	4.92	9.12	10.34
LOW	3.59	3.83	4.78	9.37	14.26	19.81	21.48	21.45	------	8.01	10.48	11.80

SUMMARY FOR 1998 HIGH 0.22 (Mar. 8, 1998) MEAN 9.83 LOW 21.48 (July 26-27, 1998)

Figure 27. Water level in observation well 07H002, Miller County.

IDENTIFICATION NUMBER.—08G001.
LOCATION.—Lat 31°06′51″, long 84°40′45″, Hydrologic Unit 03130010.
SITE NAME.—Viercocken.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused irrigation well, diameter 12 in., depth 255 ft, cased to 130 ft, open hole.
DATUM.—Altitude of land-surface datum is 150 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1977 to current year. Continuous record since February 1977.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 11.18 ft below land-surface datum, April 11, 1984; lowest, 45.07 ft below land-surface datum, August 30, 1997.

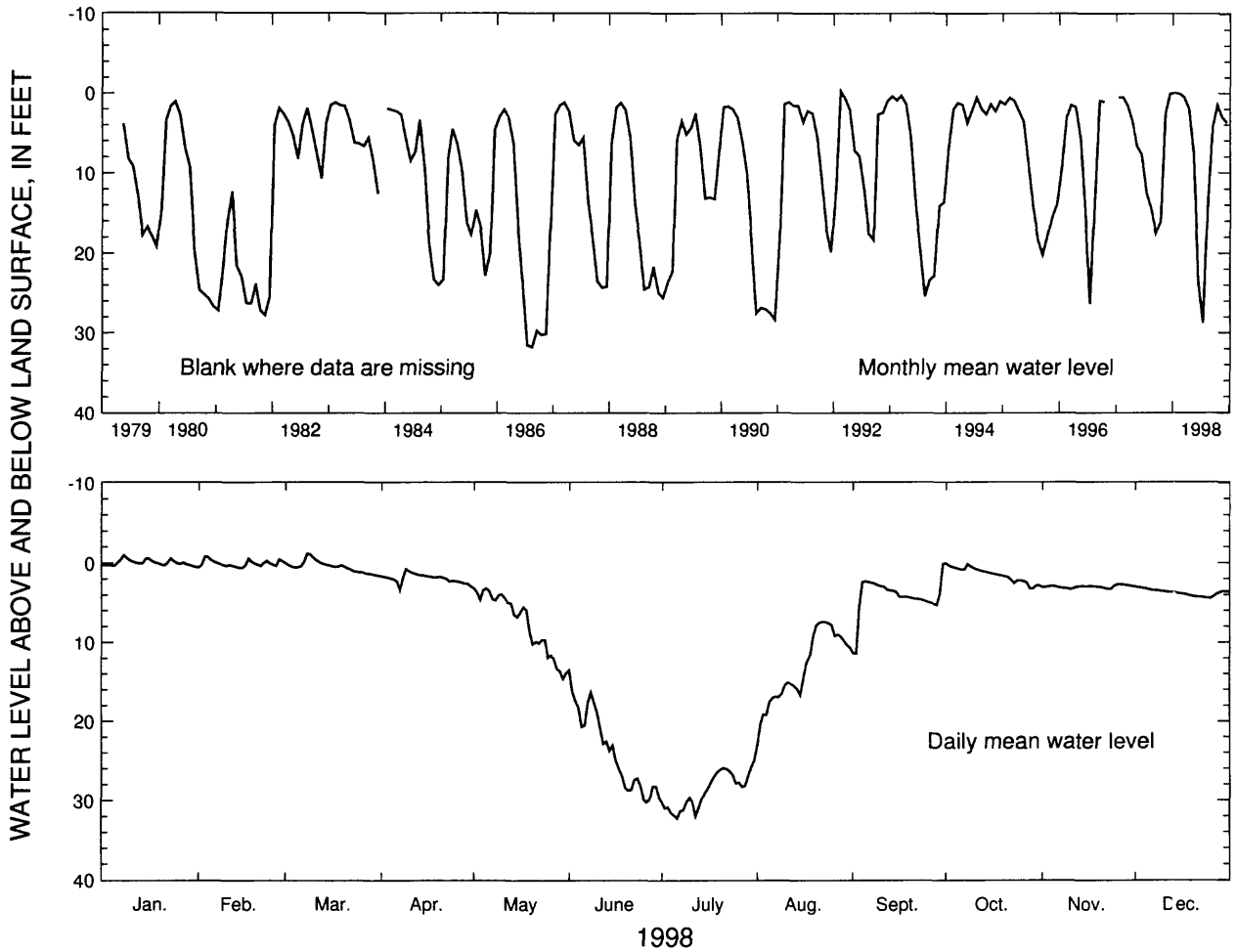


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	14.99	15.77	11.50	14.51	21.26	32.18	33.18	30.28	16.00	12.35	19.04	28.30
MEAN	15.98	16.12	13.55	17.09	27.42	37.37	39.25	34.60	27.54	17.50	23.14	29.98
LOW	17.38	16.52	16.01	19.74	32.92	40.60	41.83	38.83	37.50	26.89	27.74	33.92

SUMMARY FOR 1998 HIGH 11.50 (Mar. 11, 1998) MEAN 24.93 LOW 41.83 (July 9, 1998)

Figure 28. Water level in observation well 08G001, Miller County.

IDENTIFICATION NUMBER.—08K001.
LOCATION.—Lat 31°22′32″, long 84°39′17″, Hydrologic Unit 03130010.
SITE NAME.—Ike Newberry, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 125 ft, cased to 61 ft, open hole.
DATUM.—Altitude of land-surface datum is 230 ft.
REMARKS.—None.
PERIOD OF RECORD.—May 1979 to current year. Continuous record since May 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 2.46 ft above land-surface datum, February 23, 1992; lowest, 37.10 ft below land-surface datum, July 20, 1986.



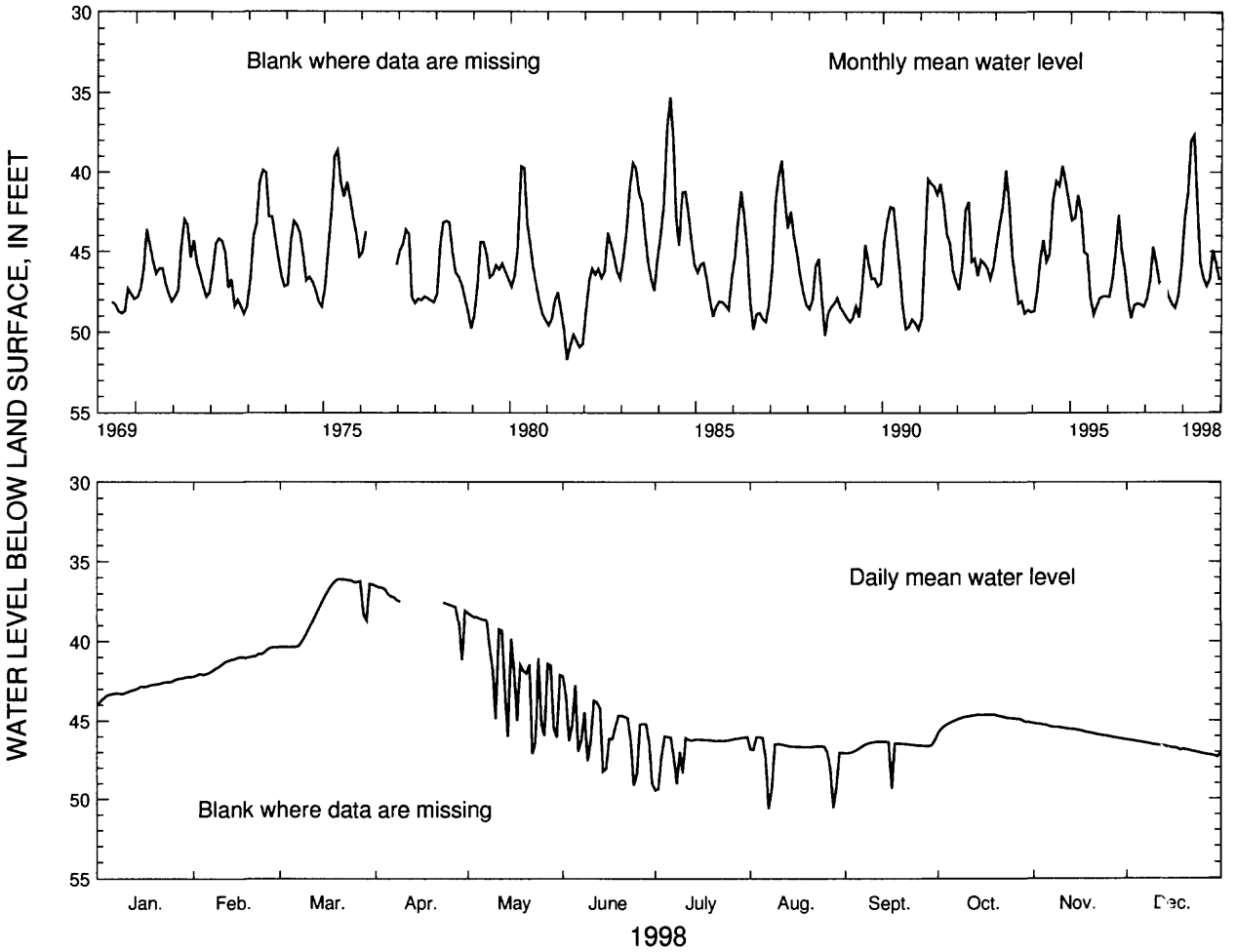
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-0.97	-0.81	-1.16	0.75	3.15	13.54	24.98	7.43	0.12	0.07	2.72	3.02
MEAN	-0.05	0.04	0.46	1.93	7.55	23.76	28.81	13.34	4.26	1.49	3.02	3.75
LOW	0.49	0.62	1.58	3.36	14.62	30.26	32.24	23.09	11.41	3.26	3.29	4.44

SUMMARY FOR 1998 HIGH -1.16 (Mar. 8, 1998) MEAN 7.41 LOW 32.24 (July 6, 1998)

[Negative value indicates water level above land surface]

Figure 29. Water level in observation well 08K001, Early County.

IDENTIFICATION NUMBER.—09F520.
LOCATION.—Lat 30°57′42″, long 84°35′46″, Hydrologic Unit 03130008.
SITE NAME.—Graham Bolton.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused irrigation well, diameter 12 in., depth 251 ft, cased to 130 ft, open hole.
DATUM.—Altitude of land-surface datum is 128 ft.
REMARKS.—This well is about 15 ft from an irrigation well. Water-level data for period, April 10-22, 1998, are missing.
PERIOD OF RECORD.—May 1969 to current year. Continuous record since May 1969.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 34.86 ft below land-surface datum, April 15, 1984; lowest, 54.89 ft below land-surface datum, September 22, 1990.

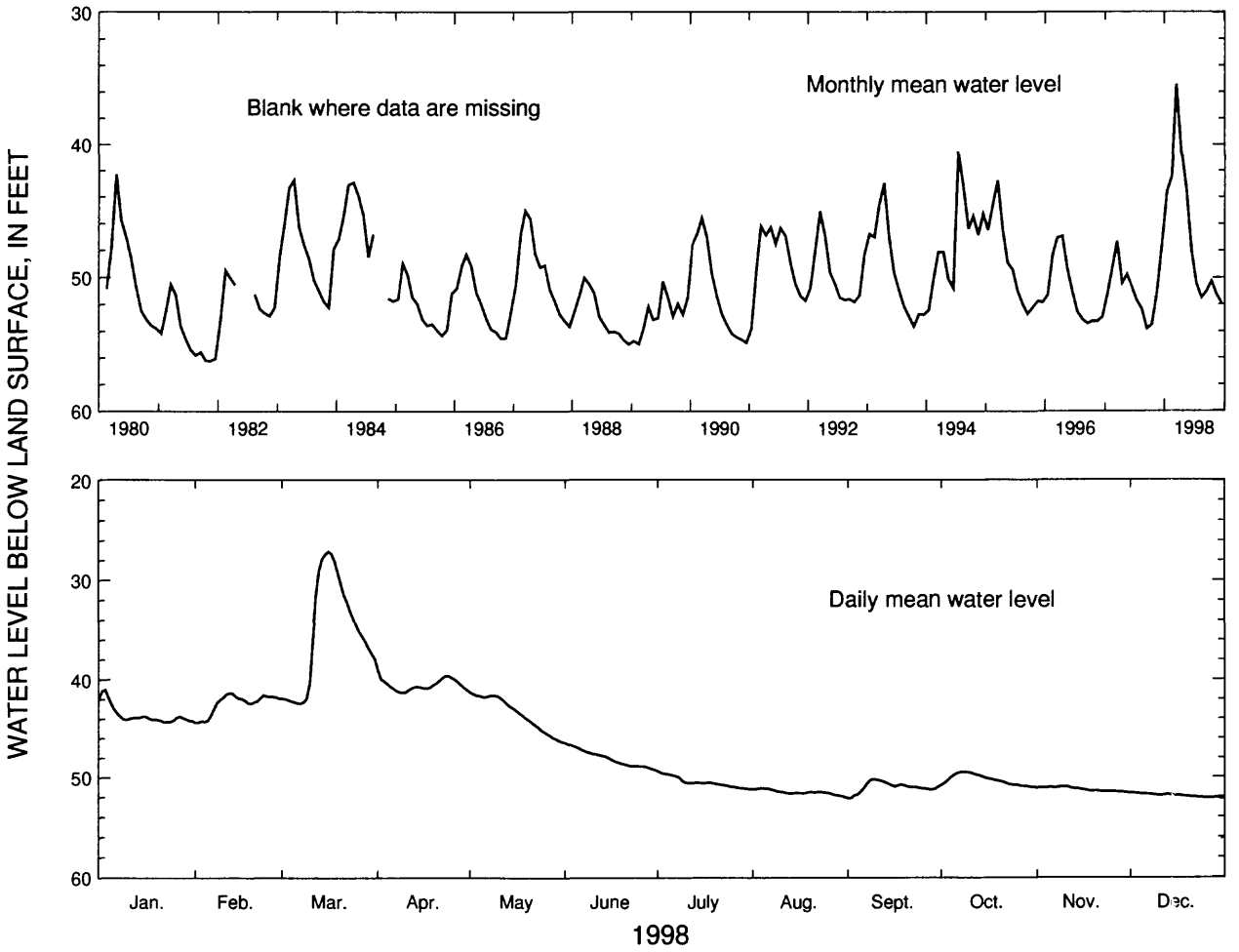


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	42.24	40.37	36.09	------	38.22	42.21	46.00	46.05	46.22	44.64	45.19	46.24
MEAN	42.91	41.25	37.99	------	41.94	45.72	46.65	47.13	46.68	44.92	45.68	46.75
LOW	44.01	42.21	40.36	------	47.11	49.13	49.45	50.64	49.35	45.80	46.20	47.33

SUMMARY FOR 1998 HIGH 36.09 (Mar. 20, 1998) MEAN 44.02 LOW 50.64 (Aug. 7, 1998)

Figure 30. Water level in observation well 09F520, Decatur County.

IDENTIFICATION NUMBER.—09G001.
LOCATION.—Lat 31°04′28″, long 84°31′05″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well DP-4.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 455 ft, cased to 382 ft, open hole.
DATUM.—Altitude of land-surface datum is 145 ft.
REMARKS.—Water levels may be affected by stage in the nearby Flint River.
PERIOD OF RECORD.—February 1980 to current year. Continuous record since February 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 27.12 ft below land-surface datum, March 16, 1998; lowest, 56.41 ft below land-surface datum, October 20-21, 1981.

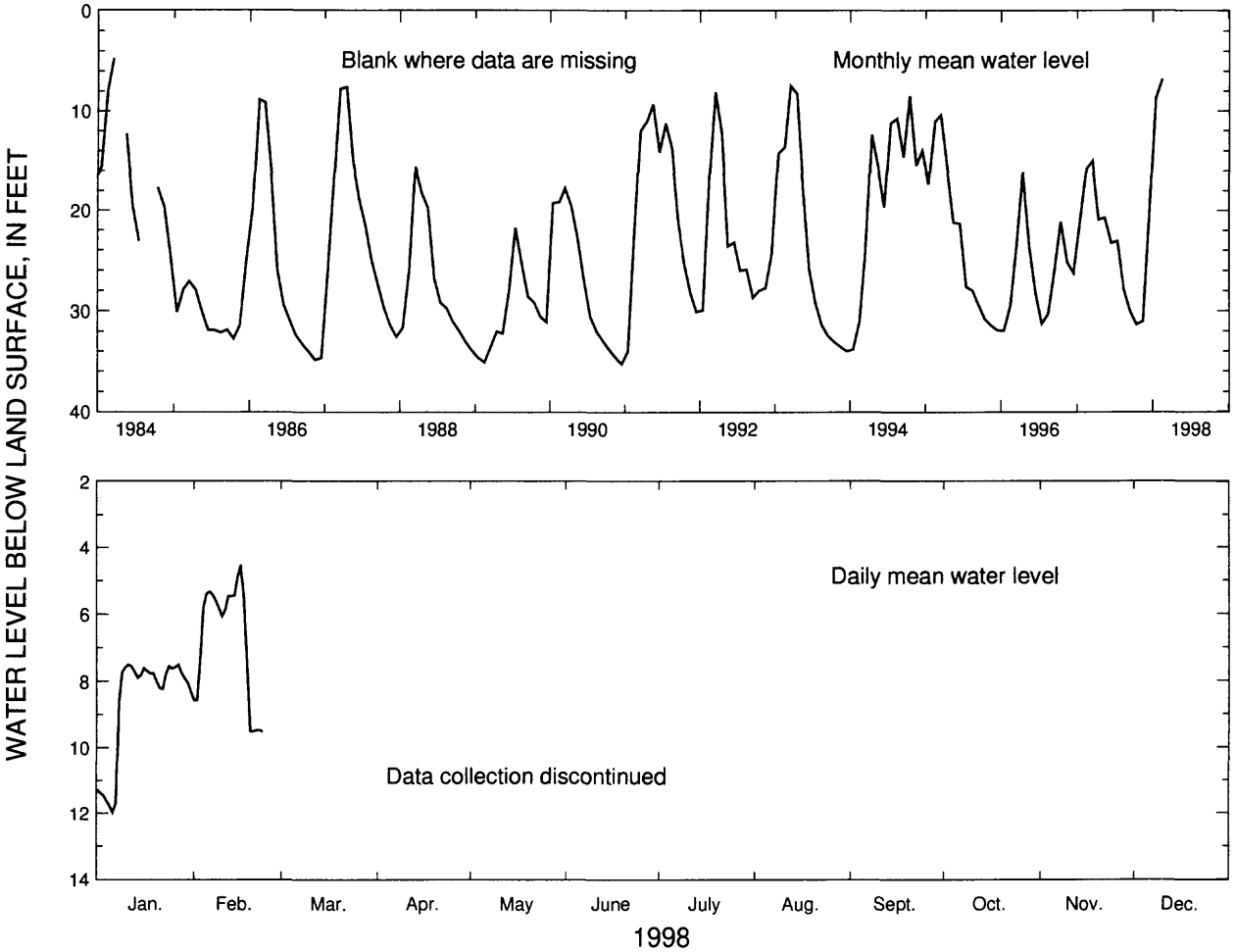


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	41.03	41.36	27.12	39.06	41.29	46.45	49.36	51.12	50.21	49.50	50.96	51.63
MEAN	43.58	42.42	35.42	40.51	43.43	48.04	50.48	51.52	51.01	50.28	51.26	51.92
LOW	44.33	44.37	42.41	41.30	46.38	49.24	51.19	52.05	52.13	51.03	51.58	52.18

SUMMARY FOR 1998 HIGH 27.12 (Mar. 16, 1998) MEAN 46.68 LOW 52.18 (Dec. 30-31, 1998)

Figure 31. Water level in observation well 09G001, Decatur County.

IDENTIFICATION NUMBER.—09H014.
LOCATION.—Lat 31°13′35″, long 84°31′19″, Hydrologic Unit 03130009.
SITE NAME.—Jo-Su-Li Farms, test well 2.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 200 ft, cased to 88 ft, open hole.
DATUM.—Altitude of land-surface datum is 152 ft.
REMARKS.—Water-level data collection discontinued, February 23, 1998.
PERIOD OF RECORD.—January 1984 to February 1998. Continuous record January 1984 to February 1998.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 2.04 ft below land-surface datum, March 8, 1984; lowest, 35.88 ft below land-surface datum, November 30, 1986.

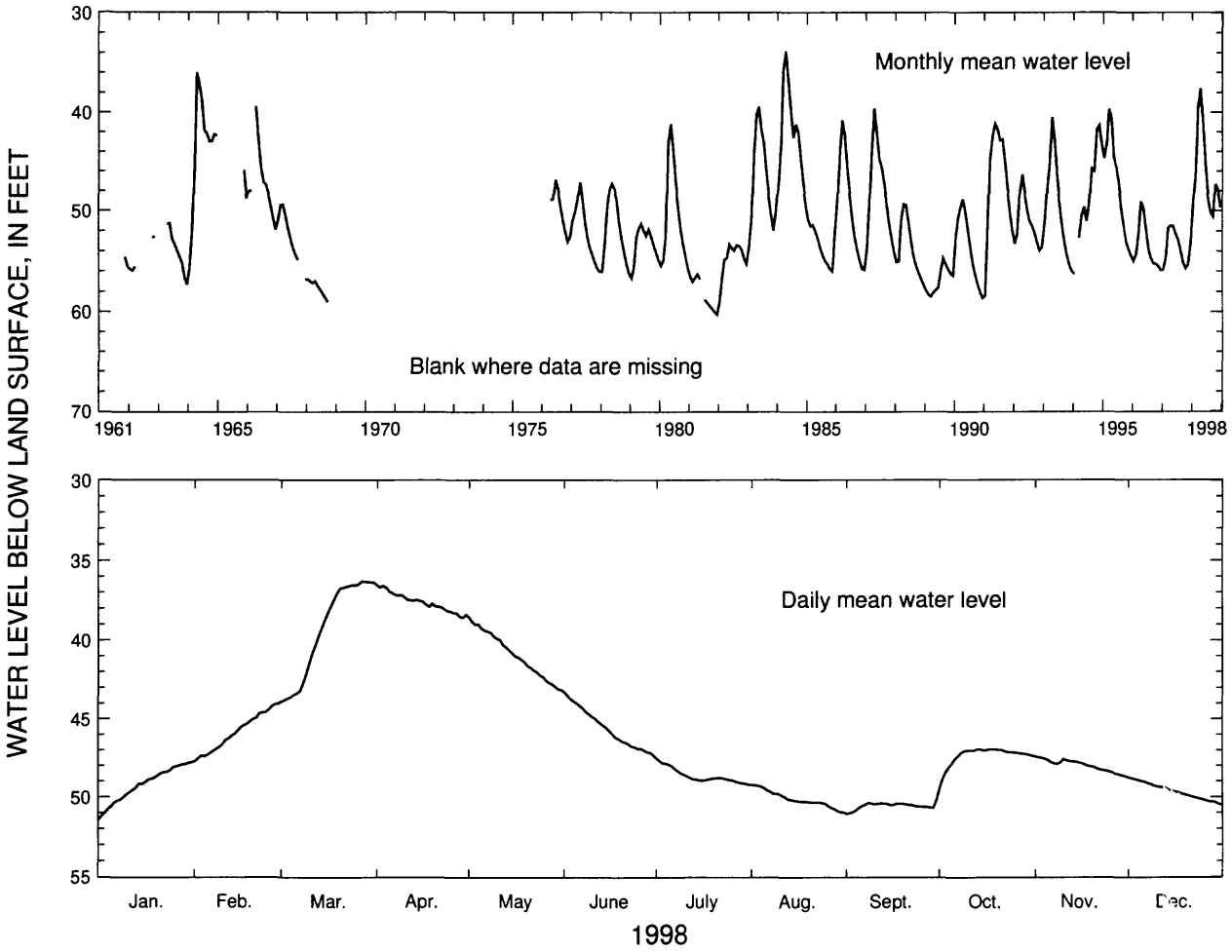


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	7.50	------	------	------	------	------	------	------	------	------	------	------
MEAN	8.67	------	------	------	------	------	------	------	------	------	------	------
LOW	11.98	------	------	------	------	------	------	------	------	------	------	------

SUMMARY FOR 1998 HIGH 4.53 (Feb. 16, 1998) MEAN 7.87 LOW 11.98 (Jan. 6, 1998)

Figure 32. Water level in observation well 09H014, Baker County.

IDENTIFICATION NUMBER.—10G313.
LOCATION.—Lat 31°05′07″, long 84°26′22″, Hydrologic Unit 03130008.
SITE NAME.—Harvey Meinders.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Cable-tool observation well, diameter 12 in., depth 250 ft, cased to 87 ft, open hole.
DATUM.—Altitude of land-surface datum is 145 ft.
REMARKS.—None.
PERIOD OF RECORD.—November 1961 to September 1968, April 1976 to current year. Continuous record November 1961 to September 1968, and since April 1976.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 32.98 ft below land-surface datum, April 9, 1984; lowest, 60.26 ft below land-surface datum, January 1, 1982.

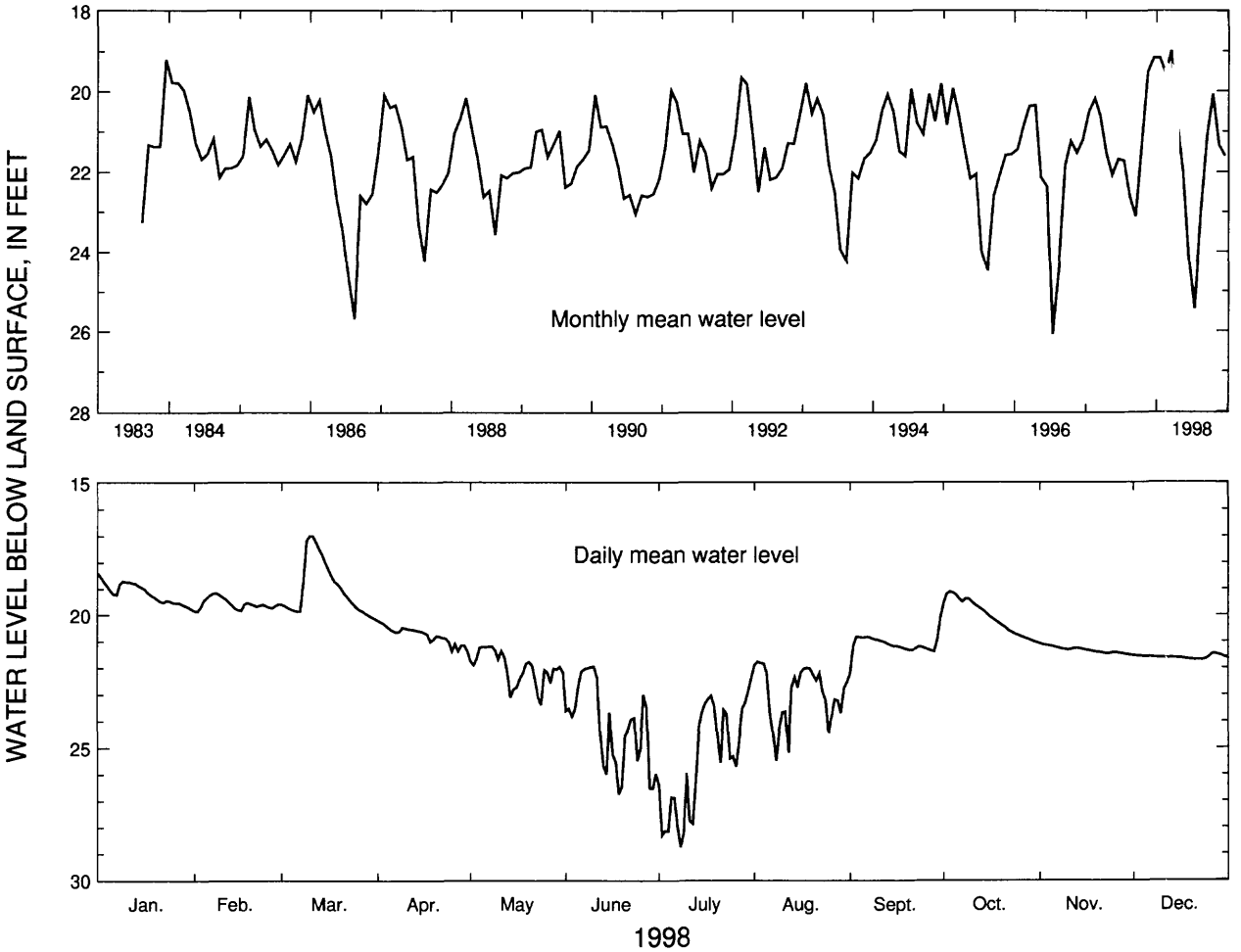


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	47.79	44.01	36.32	36.55	38.55	43.29	47.53	49.25	50.17	46.94	47.42	48.78
MEAN	49.23	45.86	39.33	37.59	40.91	45.58	48.65	50.13	50.56	47.35	47.99	49.65
LOW	51.41	47.72	43.89	38.56	43.14	47.33	49.21	50.98	51.06	49.45	48.71	50.51

SUMMARY FOR 1998 HIGH 36.32 (Mar. 27, 1998) MEAN 46.08 LOW 51.41 (Jan. 1, 1998)

Figure 33. Water level in observation well 10G313, Mitchell County.

IDENTIFICATION NUMBER.—10K005.
LOCATION.—Lat 31°28′52″, long 84°59′11″, Hydrologic Unit 03130009.
SITE NAME.—Bill Jordan, Ocala well.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 138.5 ft, cased to 55 ft, open hole.
DATUM.—Altitude of land-surface datum is 192 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1983 to current year. Continuous record since August 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 16.75 ft below land-surface datum, December 10, 1983; lowest, 29.10 ft below land-surface datum, August 9, 1986.

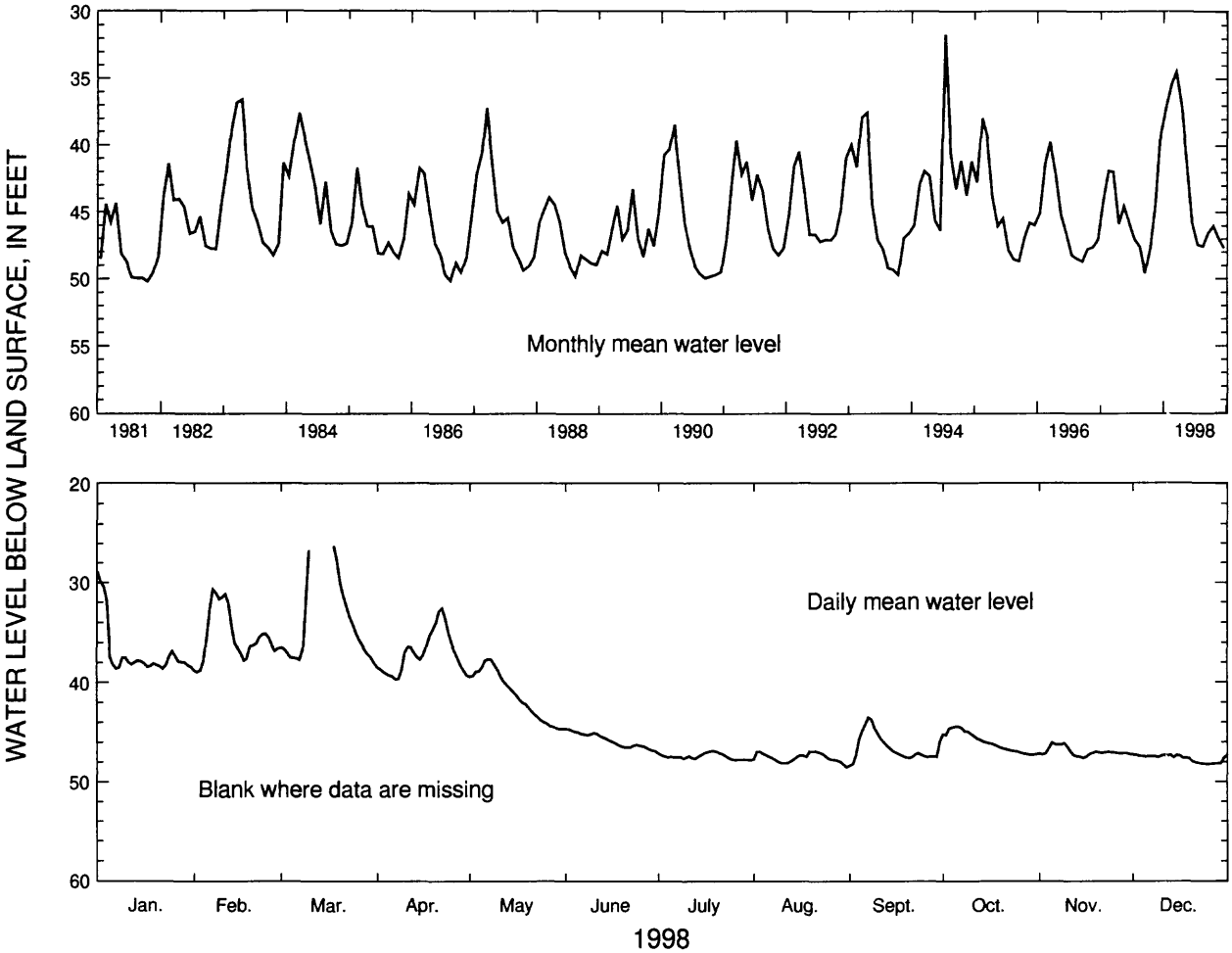


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	18.40	19.16	16.99	20.21	21.18	21.94	22.36	21.76	20.07	19.11	21.08	21.47
MEAN	19.16	19.56	18.99	20.75	22.00	24.20	25.45	22.99	21.11	20.07	21.33	21.60
LOW	19.78	19.86	20.14	21.37	23.38	26.74	28.75	25.49	22.22	21.04	21.52	21.70

SUMMARY FOR 1998 HIGH 16.99 (Mar. 10, 1998) MEAN 21.45 LOW 28.75 (July 8, 1998)

Figure 34. Water level in observation well 10K005, Calhoun County.

IDENTIFICATION NUMBER.—11J012.
LOCATION.—Lat 31°18′02″, long 84°19′23″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well DP-11.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 225 ft, cased to 62 ft, open hole.
DATUM.—Altitude of land-surface datum is 165 ft.
REMARKS.—Water-level data for period, March 11-17, 1998, are missing.
PERIOD OF RECORD.—January 1981 to current year. Continuous record since January 1981.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 12.01 ft below land-surface datum, July 14, 1994; lowest, 50.60 ft below land-surface datum, October 16, 1981.

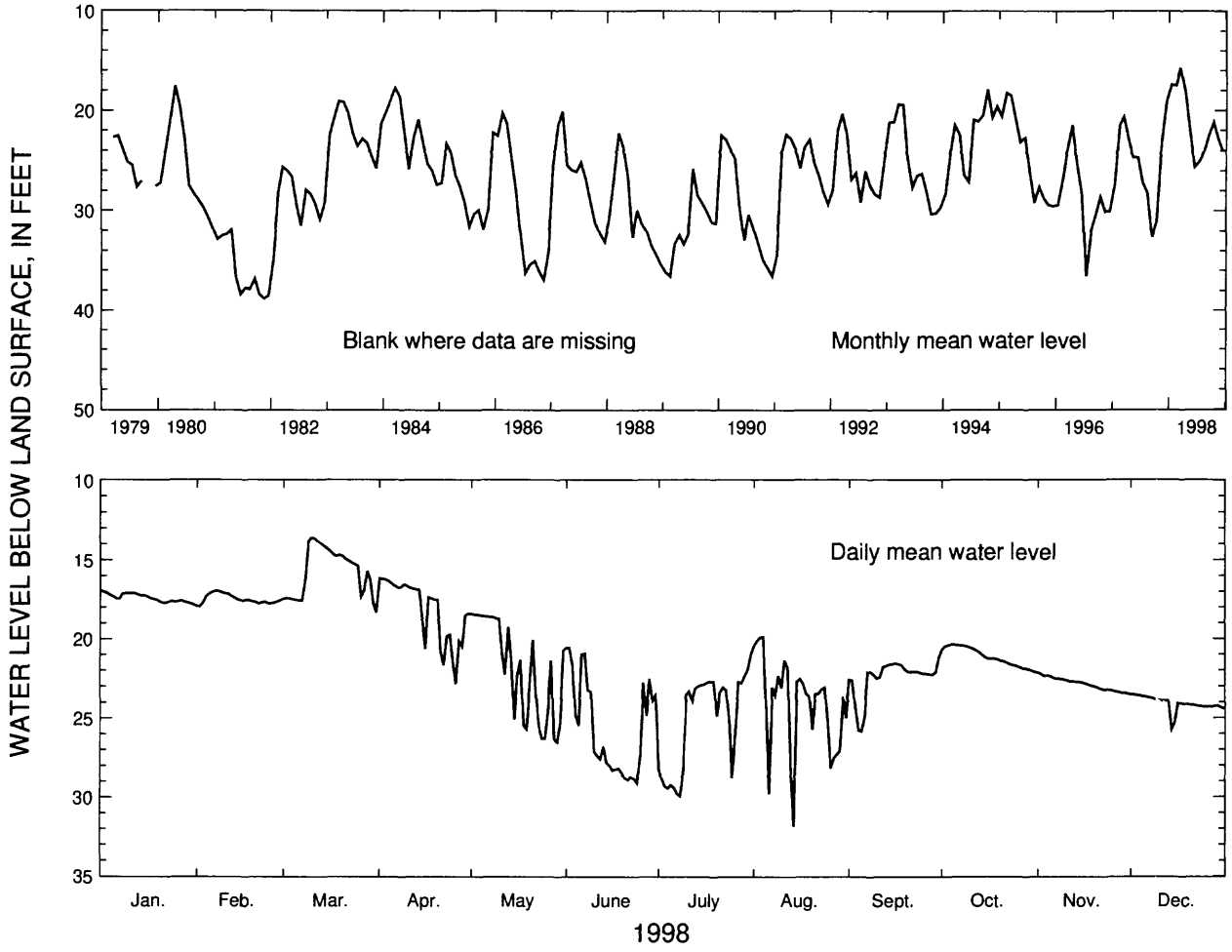


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	28.87	30.68	------	32.58	37.66	44.68	46.88	46.94	43.55	44.46	46.07	47.28
MEAN	37.01	35.35	------	37.07	41.30	45.81	47.44	47.58	46.56	46.02	46.98	47.68
LOW	38.64	38.95	------	39.67	44.68	46.89	47.83	48.56	48.39	47.29	47.62	48.28

SUMMARY FOR 1998 HIGH 26.26 (Mar. 18, 1998) MEAN 42.98 LOW 48.56 (Aug. 31, 1998)

Figure 35. Water level in observation well 11J012, Mitchell County.

IDENTIFICATION NUMBER.—11K003.
LOCATION.—Lat 31°29'12", long 84°15'34", Hydrologic Unit 03130008.
SITE NAME.—Nilo test well, north.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 150 ft, cased to 63 ft, open hole.
DATUM.—Altitude of land-surface datum is 195 ft.
REMARKS.—None.
PERIOD OF RECORD.—March 1979 to current year. Continuous record since March 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 13.61 ft below land-surface datum, March 10, 1998; lowest, 42.48 ft below land-surface datum, June 23, 1981.

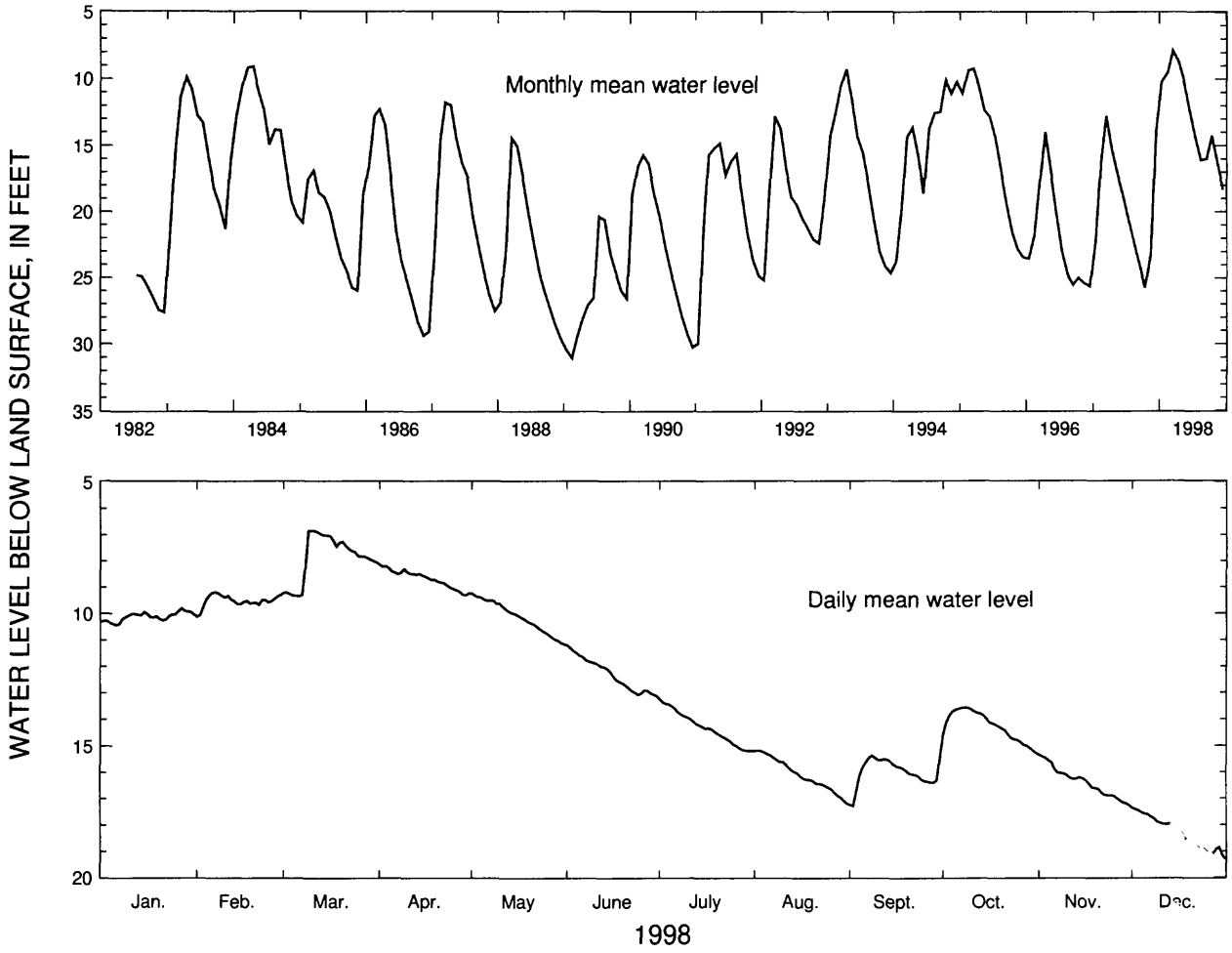


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	16.94	16.96	13.61	16.17	18.41	20.56	21.04	19.88	21.19	20.40	22.16	23.52
MEAN	17.40	17.48	15.73	18.17	21.89	25.62	25.12	24.13	22.47	21.16	22.87	24.10
LOW	17.85	17.95	18.33	22.85	26.51	29.11	29.93	31.84	25.83	22.13	23.48	25.72

SUMMARY FOR 1998 HIGH 13.61 (Mar. 10, 1998) MEAN 21.37 LOW 31.84 (Aug. 14, 1998)

Figure 36. Water level in observation well 11K003, Dougherty County.

IDENTIFICATION NUMBER.—11K015.
LOCATION.—Lat 31°27'09", long 84°16'17", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 14.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 117 ft, cased to 74 ft, open hole.
DATUM.—Altitude of land-surface datum is 175 ft.
REMARKS.—None.
PERIOD OF RECORD.—July 1982 to current year. Continuous record since July 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 6.84 ft below land-surface datum, March 9-11, 1998; lowest, 31.22 ft below land-surface datum, February 22-23, 1989.

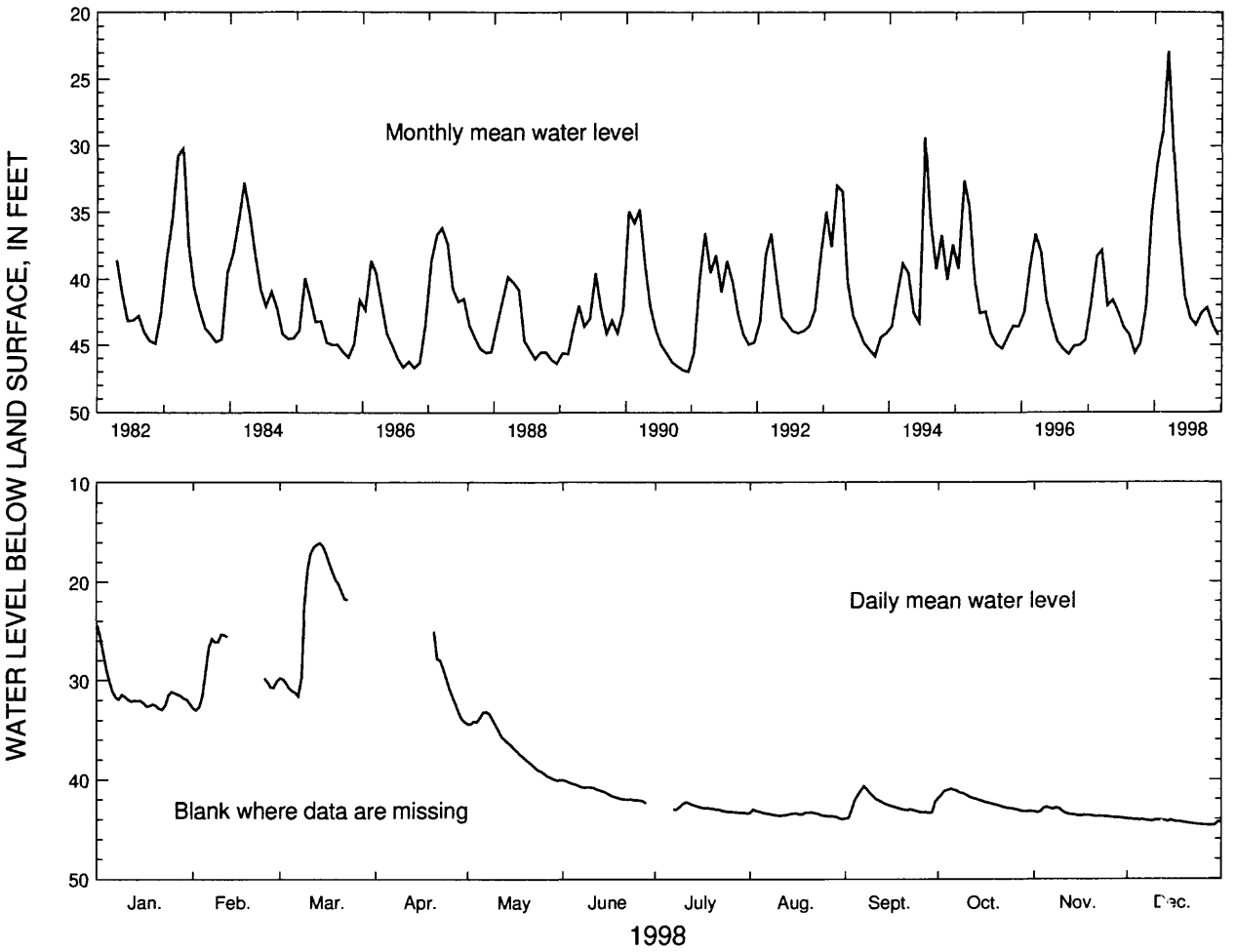


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	9.81	9.18	6.84	8.14	9.22	11.20	13.22	15.19	15.36	13.56	15.36	17.36
MEAN	10.12	9.51	7.85	8.66	10.13	12.30	14.31	16.09	16.00	14.26	16.38	18.32
LOW	10.45	10.12	9.34	9.30	11.16	13.12	15.21	17.19	17.28	15.29	17.27	19.31

SUMMARY FOR 1998 HIGH 6.84 (Mar. 9-11, 1998) MEAN 12.85 LOW 19.31 (Dec. 31, 1998)

Figure 37. Water level in observation well 11K015, Dougherty County.

IDENTIFICATION NUMBER.—12K014.
LOCATION.—Lat 31°26'11", long 84°11'05", Hydrologic Unit 03130008.
SITE NAME.—Blue Springs, observation well.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 137 ft, cased to 69 ft, open hole.
DATUM.—Altitude of land-surface datum is 178 ft.
REMARKS.—Water-level data for periods, February 13-23, March 24 to April 19, and June 29 to July 6, 1998, are missing.
PERIOD OF RECORD.—April 1982 to current year. Continuous record since April 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 16.07 ft below land-surface datum, March 14, 1998; lowest, 47.30 ft below land-surface datum, December 16-18, 1990.

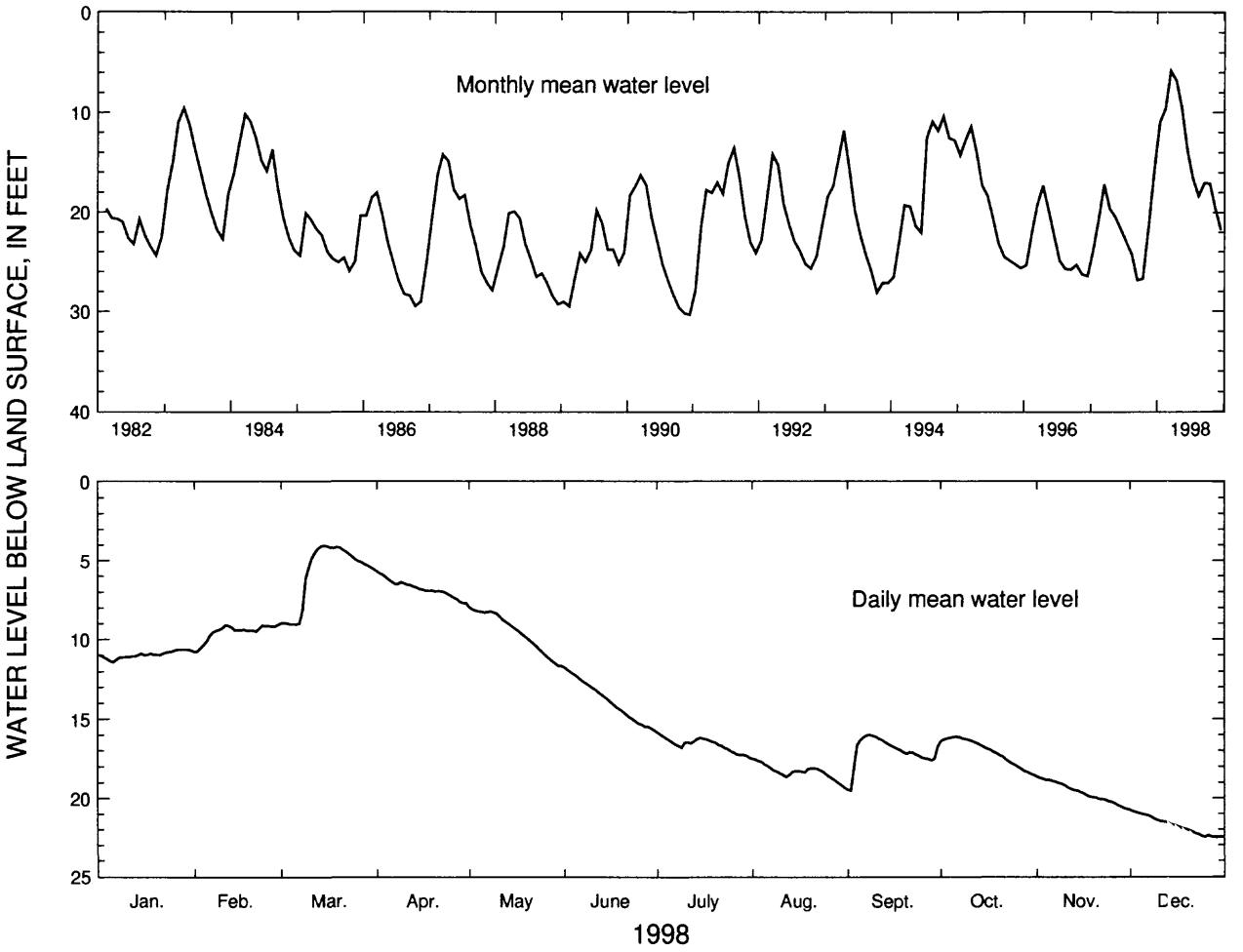


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	24.42	------	------	------	33.19	40.05	42.30	43.02	40.66	40.93	42.80	43.97
MEAN	31.24	------	------	------	36.71	41.29	42.95	43.49	42.58	42.19	43.48	44.28
LOW	32.95	------	------	------	40.04	42.39	43.39	43.97	43.92	43.24	43.93	44.63

SUMMARY FOR 1998 HIGH 16.07 (Mar. 14, 1998) MEAN 38.56 LOW 44.63 (Dec. 27, 1998)

Figure 38. Water level in observation well 12K014, Baker County.

IDENTIFICATION NUMBER.—12L028.
LOCATION.—Lat 31°33'02", long 84°12'03", Hydrologic Unit 03130008.
SITE NAME.—Vandy W. Musgrove.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 10.5 in., depth 100 ft, cased to 43 ft, open hole.
DATUM.—Altitude of land-surface datum is 190 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1982 to current year. Continuous record since February 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.04 ft below land-surface datum, March 15, 1998; lowest, 30.80 ft below land-surface datum, December 18, 1990.

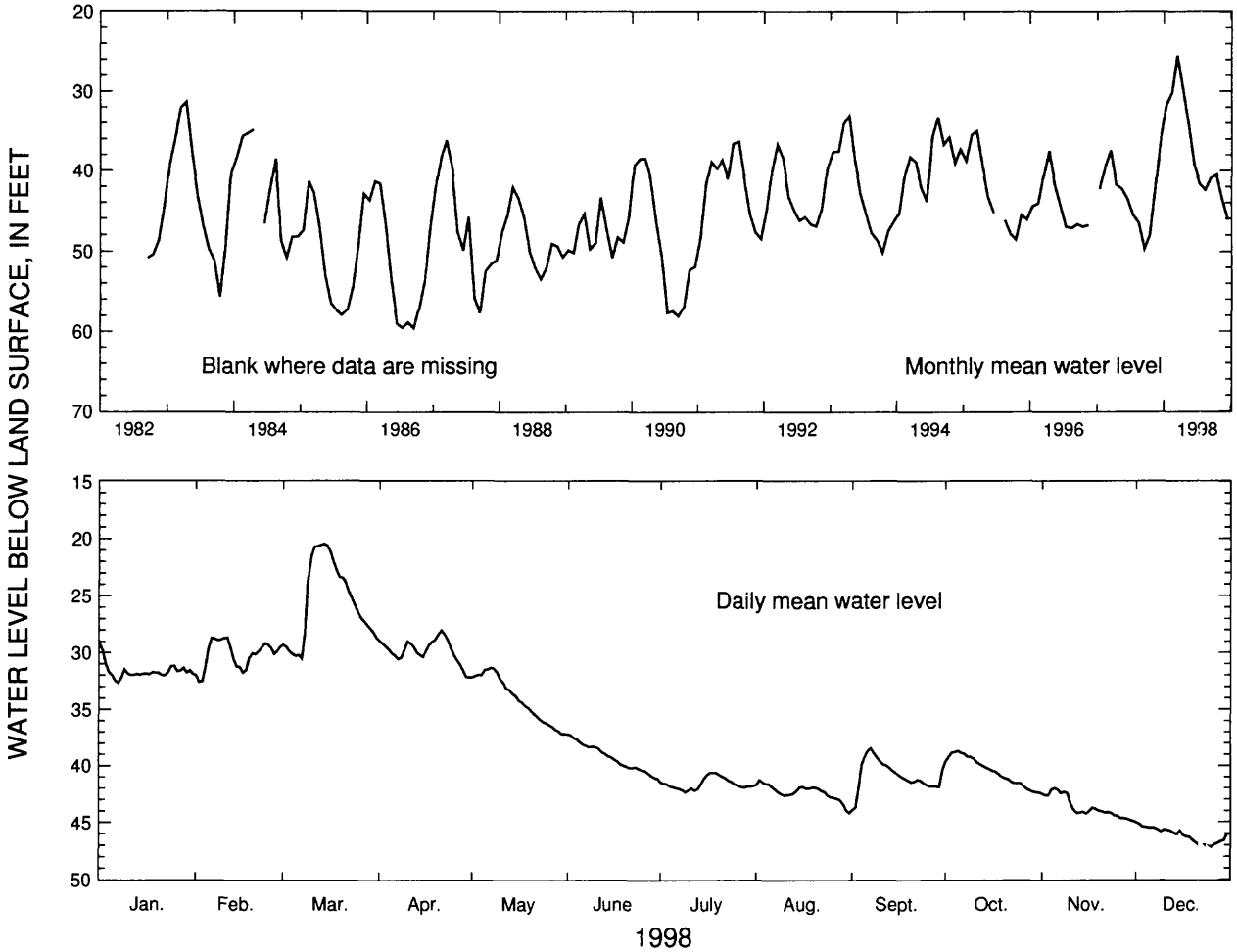


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	10.63	9.08	4.04	5.69	7.95	11.74	15.84	17.51	16.00	16.13	18.64	20.77
MEAN	10.96	9.54	5.80	6.77	9.53	13.84	16.61	18.33	17.04	17.06	19.65	21.77
LOW	11.41	10.78	9.05	7.71	11.65	15.69	17.43	19.34	19.52	18.54	20.71	22.51

SUMMARY FOR 1998 HIGH 4.04 (Mar. 15, 1998) MEAN 13.94 LOW 22.51 (Dec. 29, 1998)

Figure 39. Water level in observation well 12L028, Dougherty County.

IDENTIFICATION NUMBER.—12L029.
LOCATION.—Lat 31°34′50″, long 84°09′18″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 13.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 178 ft, cased to 35 ft, open hole.
DATUM.—Altitude of land-surface datum is 200 ft.
REMARKS.—None.
PERIOD OF RECORD.—September 1982 to current year. Continuous record since September 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 20.47 ft below land-surface datum, March 14, 1998; lowest, 64.66 ft below land-surface datum, July 26, 1986.

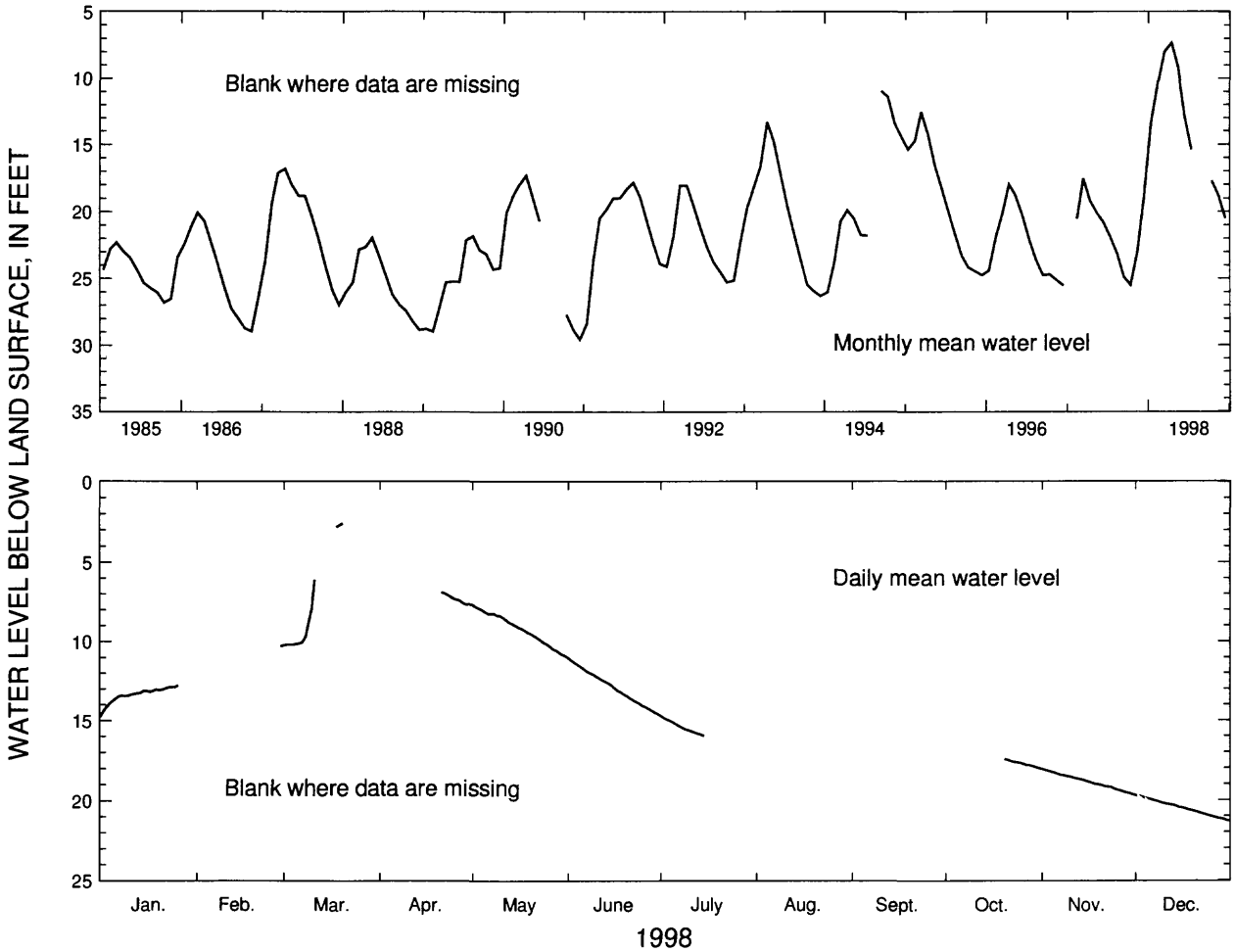


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	29.18	28.63	20.47	28.03	31.36	37.19	40.61	41.31	38.43	38.66	42.01	45.03
MEAN	31.65	30.14	25.48	29.82	34.12	39.25	41.59	42.36	40.86	40.50	43.67	46.15
LOW	32.67	32.59	30.52	32.22	37.17	41.16	42.36	44.18	43.91	42.40	44.93	47.16

SUMMARY FOR 1998 HIGH 20.47 (Mar. 14, 1998) MEAN 37.17 LOW 47.16 (Dec. 25, 1998)

Figure 40. Water level in observation well 12L029, Dougherty County.

IDENTIFICATION NUMBER.—12L030.
LOCATION.—Lat 31°31'30", long 84°10'10", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 16.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 140 ft, cased to 84 ft, open hole.
DATUM.—Altitude of land-surface datum is 180 ft.
REMARKS.—Water-level data for periods, January 27 to February 27, March 12-17, March 21 to April 20, and July 16 to October 19, 1998, are missing.
PERIOD OF RECORD.—January 1985 to current year. Continuous record since January 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 2.59 ft below land-surface datum, March 20, 1998, but may have been higher during period of missing record; lowest, 29.78 ft below land-surface datum, December 19, 1990.

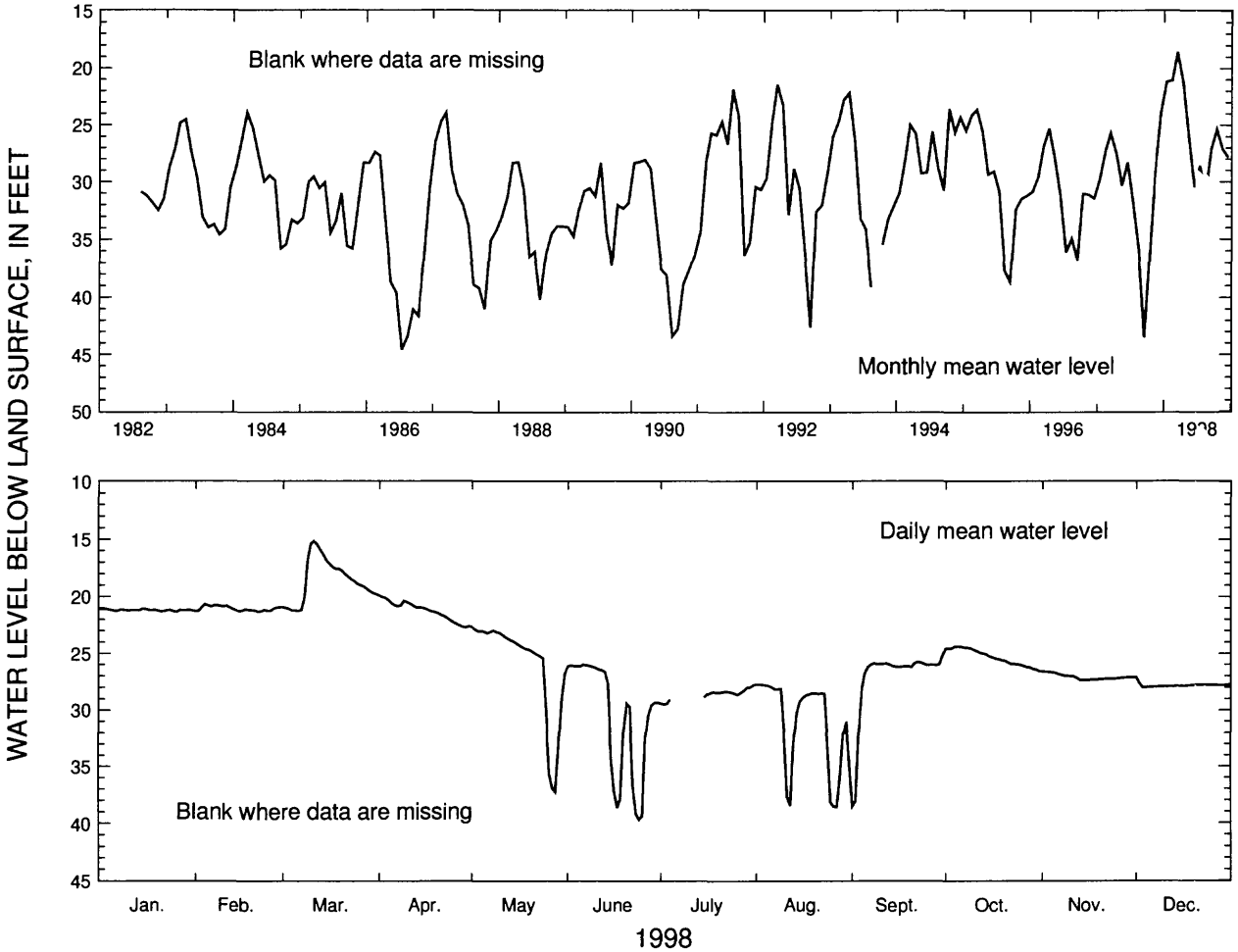


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	12.75	------	------	------	7.67	11.01	------	------	------	------	18.06	19.69
MEAN	13.36	------	------	------	9.18	12.87	------	------	------	------	18.84	20.50
LOW	14.78	------	------	------	10.90	14.57	------	------	------	------	19.63	21.32

SUMMARY FOR 1998 HIGH 2.59 (Mar. 20, 1998) MEAN 14.29 LOW 21.32 (Dec. 31, 1998)

Figure 41. Water level in observation well 12L030, Dougherty County.

IDENTIFICATION NUMBER.—12M017.
LOCATION.—Lat 31°38'08", long 84°09'36", Hydrologic Unit 03130007.
SITE NAME.—U.S. Geological Survey, test well 19.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 181 ft, cased to 41 ft, open hole.
DATUM.—Altitude of land-surface datum is 225 ft.
REMARKS.—Water-level data for period, July 5-14, 1998, are missing.
PERIOD OF RECORD.—August 1982 to current year. Continuous record since August 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 15.15 ft below land-surface datum, March 11, 1998; lowest, 61.67 ft below land-surface datum, August 24, 1990, but may have been lower during period of missing record.

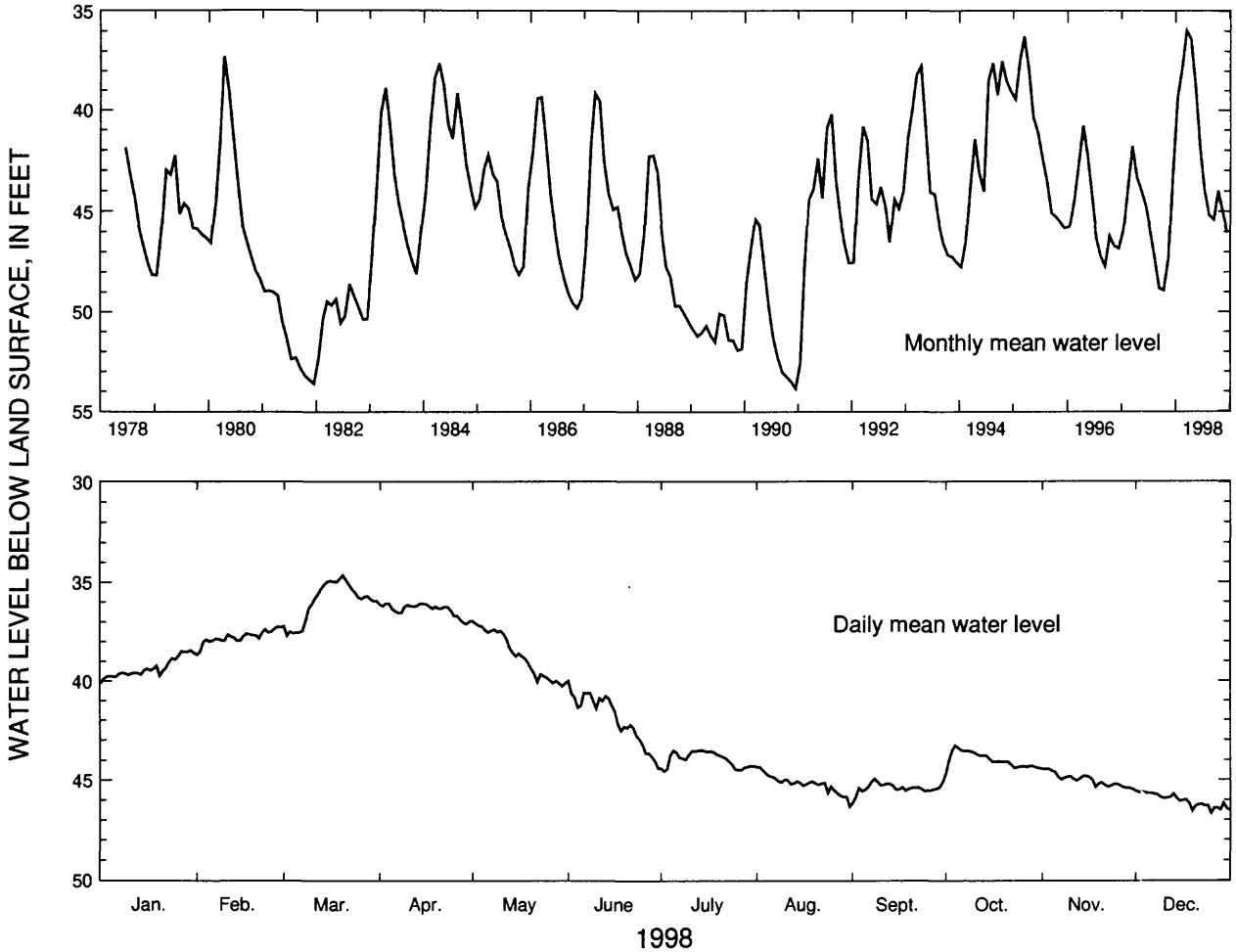


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	21.06	20.67	15.15	19.89	22.67	26.00	------	27.74	25.14	24.38	26.61	27.14
MEAN	21.19	21.06	18.57	21.23	25.84	30.45	------	31.09	27.11	25.34	27.12	27.85
LOW	21.35	21.35	21.26	22.70	37.27	39.68	------	38.59	38.54	26.58	27.40	28.04

SUMMARY FOR 1998 HIGH 15.15 (Mar. 11, 1998) MEAN 25.39 LOW 39.68 (June 24, 1998)

Figure 42. Water level in observation well 12M017, Lee County.

IDENTIFICATION NUMBER.—13J004.
LOCATION.—Lat 31°21'29", long 84°06'57", Hydrologic Unit 03130008.
SITE NAME.—Aurora Dairy.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 12 in., depth 208 ft, cased to 77 ft, open hole.
DATUM.—Altitude of land-surface datum is 200 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1978 to current year. Continuous record since June 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 34.64 ft below land-surface datum, March 20, 1998; lowest, 54.05 ft below land-surface datum, December 25, 1990.

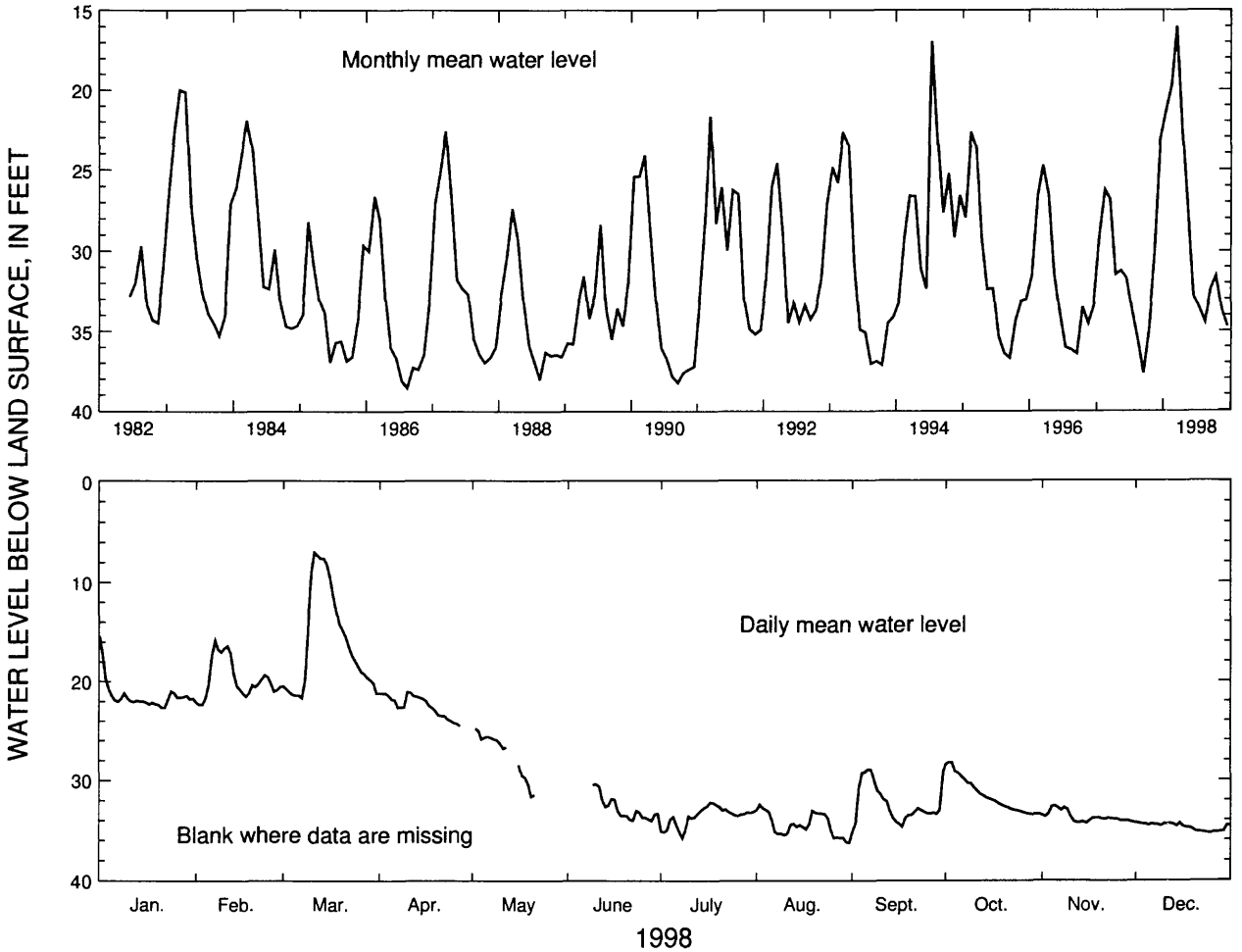


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	38.44	37.25	34.64	36.07	36.96	40.00	43.51	44.34	44.96	43.29	44.46	45.57
MEAN	39.34	37.78	35.96	36.38	38.66	41.92	43.95	45.18	45.41	43.99	45.02	46.05
LOW	40.12	38.66	37.71	37.11	40.27	44.40	44.56	46.33	46.16	44.67	45.48	46.68

SUMMARY FOR 1998 HIGH 34.64 (Mar. 20, 1998) MEAN 41.66 LOW 46.68 (Dec. 25, 1998)

Figure 43. Water level in observation well 13J004, Mitchell County.

IDENTIFICATION NUMBER.—13K014.
LOCATION.—Lat 31°27'04", long 84°07'10", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 15.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 129 ft, cased to 99 ft, open hole.
DATUM.—Altitude of land-surface datum is 183 ft.
REMARKS.—Water-level data for periods, April 28 to May 1, May 13-15, and May 22 to June 8, 1998, are missing.
PERIOD OF RECORD.—June 1982 to current year. Continuous record since June 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 5.11 ft below land-surface datum, July 4, 1994; lowest, 39.73 ft below land-surface datum, July 23, 1986.

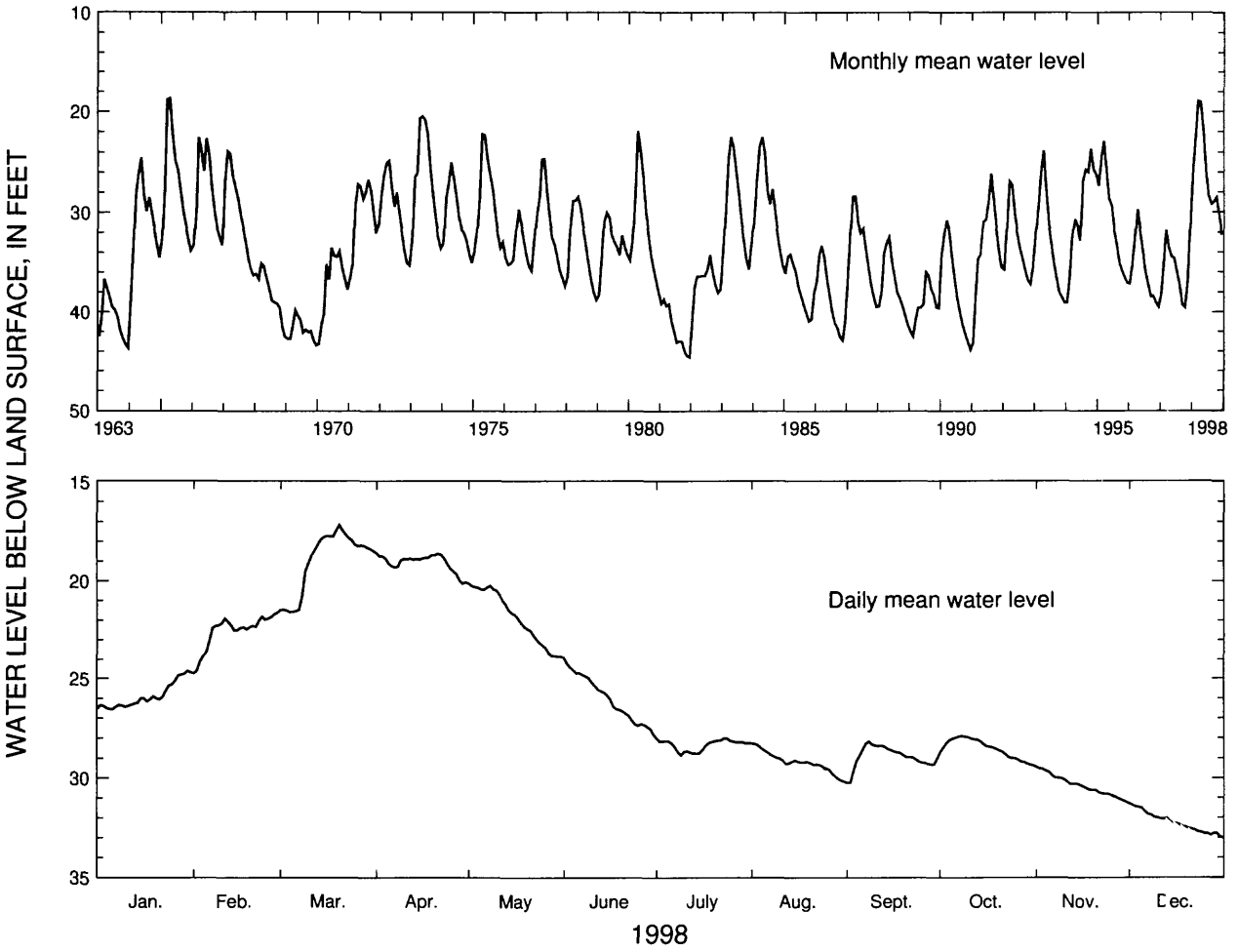


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	15.38	15.84	7.00	21.08	------	------	32.21	32.41	28.99	28.25	32.56	34.25
MEAN	21.38	19.73	16.01	22.46	------	------	33.58	34.43	32.41	31.57	33.71	34.72
LOW	22.64	22.35	21.66	24.54	------	------	35.76	36.28	35.17	33.44	34.31	35.29

SUMMARY FOR 1998 HIGH 7.00 (Mar. 11, 1998) MEAN 28.39 LOW 36.28 (Aug. 31, 1998)

Figure 44. Water level in observation well 13K014, Dougherty County.

IDENTIFICATION NUMBER.—13L003.
LOCATION.—Lat 31°33'13", long 84°00'21", Hydrologic Unit 03130008.
SITE NAME.—City of Albany and Dougherty County.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 6 in., depth 259 ft, cased to 206 ft, open hole.
DATUM.—Altitude of land-surface datum is 225 ft.
REMARKS.—None.
PERIOD OF RECORD.—January 1963 to current year. Continuous record since January 1963.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 17.17 ft below land-surface datum, March 20, 1998; lowest, 44.89 ft below land-surface datum, December 13, 1981.

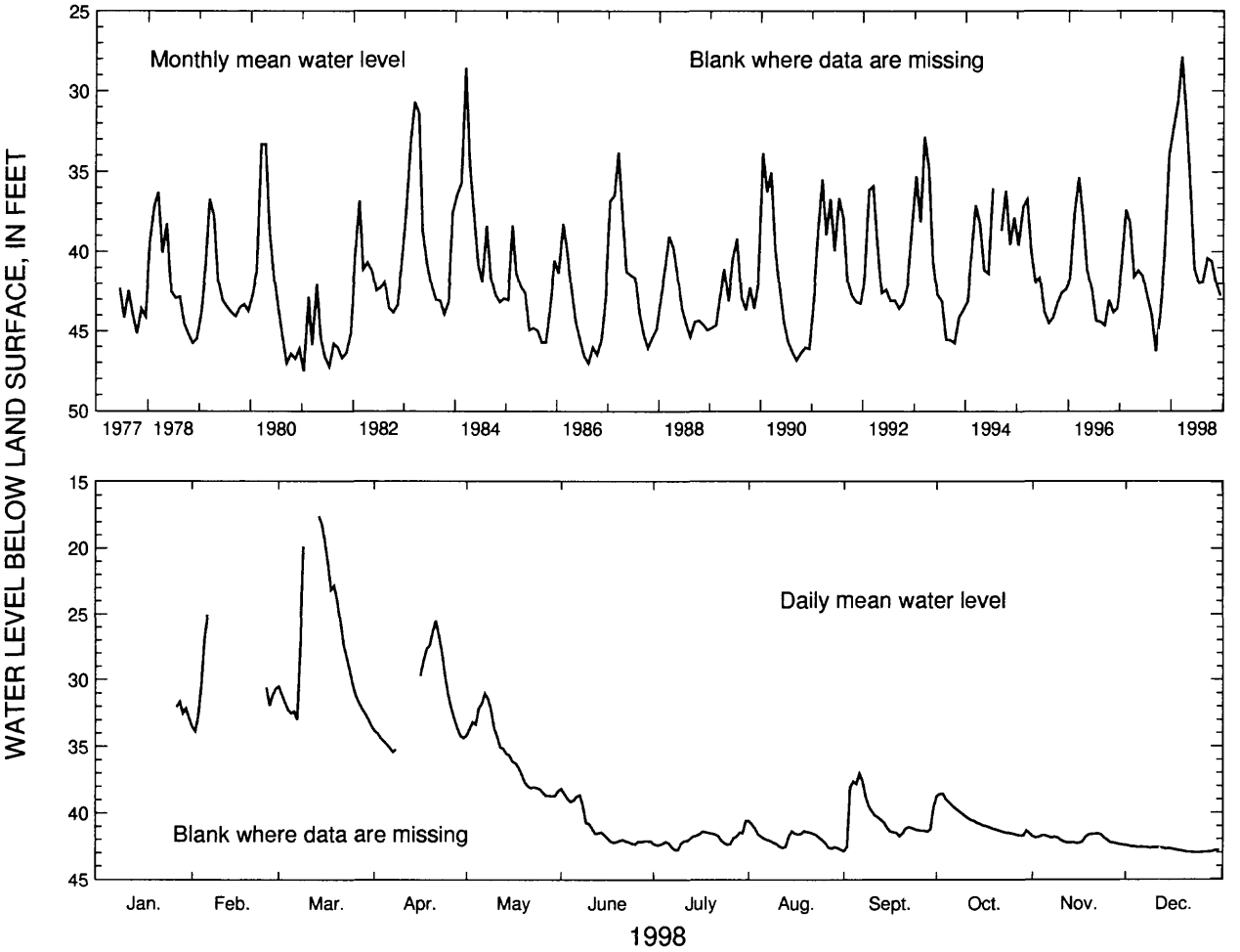


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	24.61	21.62	17.17	18.59	20.12	23.91	28.03	28.27	28.19	27.91	29.47	31.30
MEAN	25.90	22.55	18.95	19.06	21.84	25.99	28.35	29.20	28.93	28.54	30.39	32.26
LOW	26.55	24.73	21.58	20.12	23.86	27.83	28.85	30.19	30.26	29.39	31.23	33.01

SUMMARY FOR 1998 HIGH 17.17 (Mar. 20, 1998) MEAN 26.03 LOW 33.01 (Dec. 31, 1998)

Figure 45. Water level in observation well 13L003, Dougherty County.

IDENTIFICATION NUMBER.—13L012.
LOCATION.—Lat 31°31'05", long 84°06'43", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 218 ft, cased to 54 ft, open hole.
DATUM.—Altitude of land-surface datum is 195 ft.
REMARKS.—Water-level data for periods, January 1-26, February 7-24, March 10-13, and April 9-15, 1998, are missing.
PERIOD OF RECORD.—June 1977 to current year. Continuous record since June 1977.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 17.60 ft below land-surface datum, March 14, 1998, but may have been higher during period of missing record; lowest, 48.18 ft below land-surface datum, July 1, 1981.

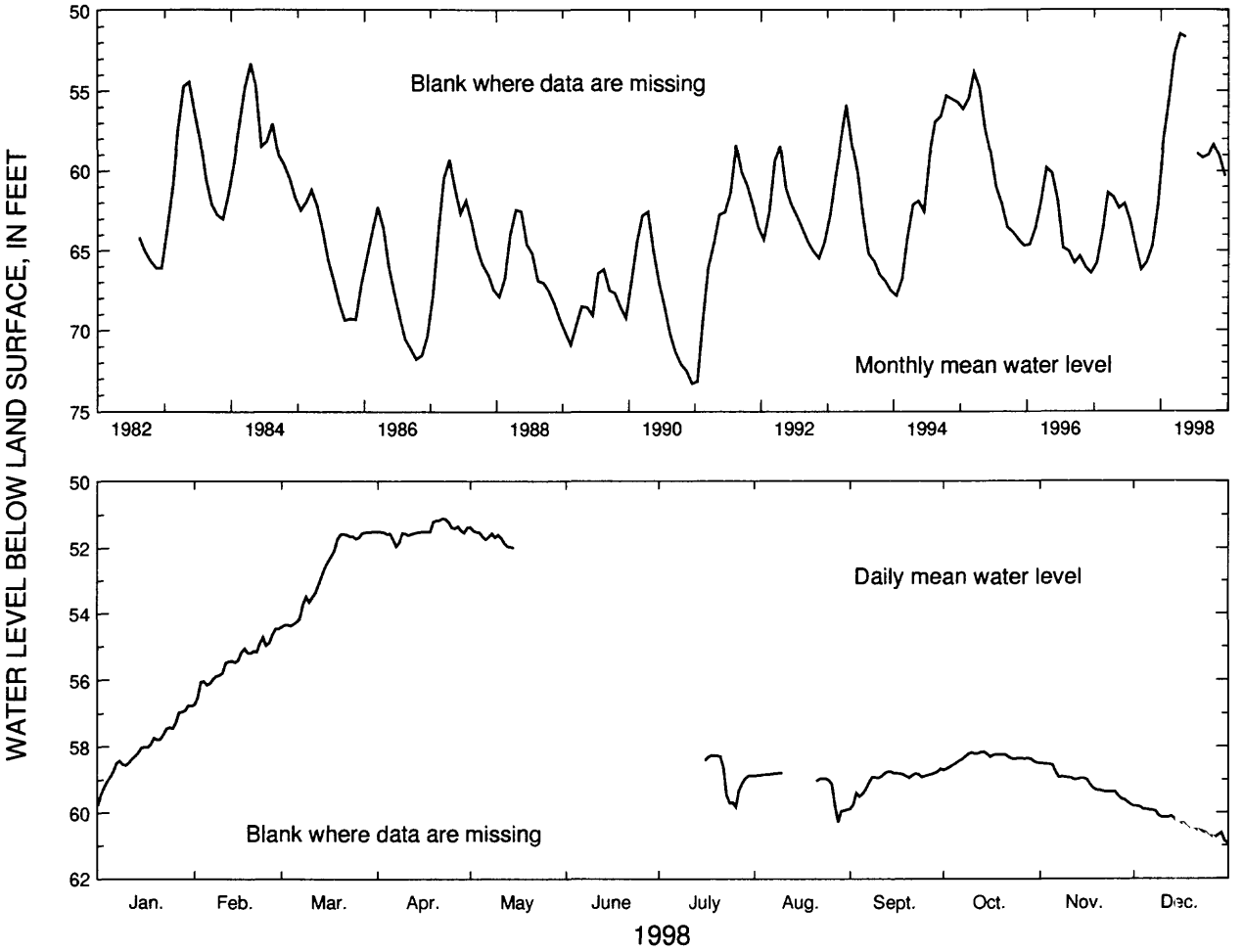


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	------	17.60	------	31.03	38.19	40.59	40.60	37.05	38.58	41.57	42.45
MEAN	------	------	27.86	------	35.76	41.06	41.96	41.91	40.44	40.60	41.98	42.76
LOW	------	------	33.47	------	38.74	42.35	42.77	42.79	42.88	41.71	42.42	43.00

SUMMARY FOR 1998 HIGH 17.60 (Mar. 14, 1998) MEAN 38.53 LOW 43.00 (Dec. 24-25, 1998)

Figure 46. Water level in observation well 13L012, Dougherty County.

IDENTIFICATION NUMBER.—13L048.
LOCATION.—Lat 31°30′31″, long 84°00′59″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 17.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 344 ft, cased to 51 ft, open hole.
DATUM.—Altitude of land-surface datum is 245 ft.
REMARKS.—Water-level data for periods, May 16 to July 15 and August 11-20, 1998, are missing.
PERIOD OF RECORD.—August 1982 to current year. Continuous record since August 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 51.10 ft below land-surface datum, April 22, 199^; lowest, 73.76 ft below land-surface datum, January 9, 1981.

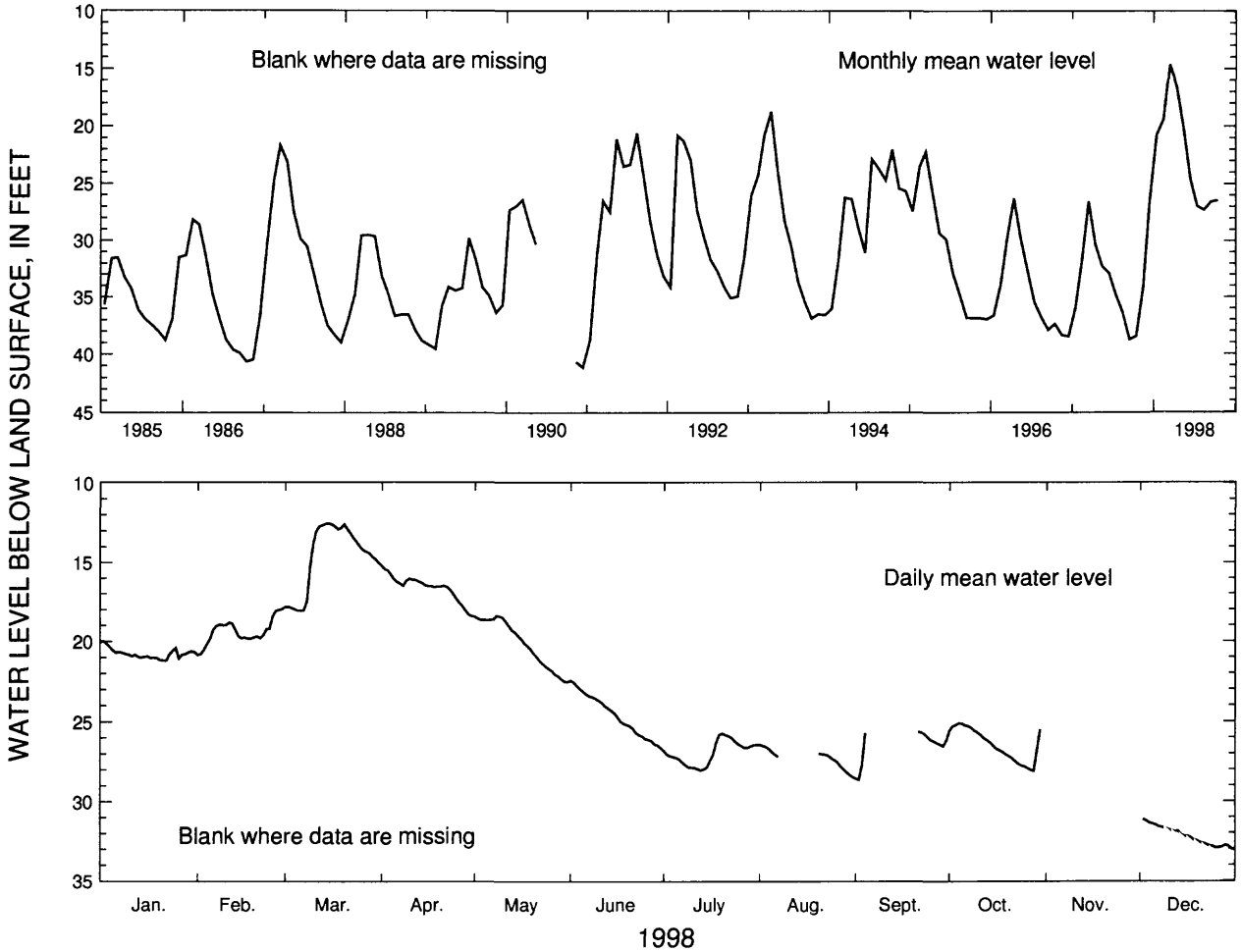


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	56.76	54.46	51.50	51.10	------	------	------	------	58.67	58.16	58.50	59.81
MEAN	58.04	55.43	52.71	51.47	------	------	------	------	58.99	58.35	59.10	60.33
LOW	59.75	56.73	54.40	51.94	------	------	------	------	59.89	58.70	59.76	60.94

SUMMARY FOR 1998 HIGH 51.10 (Apr. 22, 1998) MEAN 56.84 LOW 60.94 (Dec. 31, 1998)

Figure 47. Water level in observation well 13L048, Dougherty County.

IDENTIFICATION NUMBER.—13L049.
LOCATION.—Lat 31°35'21", long 84°05'10", Hydrologic Unit 03130006.
SITE NAME.—Miller Ammo Supply.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 170 ft, cased to 103 ft, open hole.
DATUM.—Altitude of land-surface datum is 204 ft.
REMARKS.—Water-level data for periods, August 8-19, September 5-20, and October 31 to December 1,1998 are missing.
PERIOD OF RECORD.—January 1985 to current year. Continuous record since January 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 12.54 ft below land-surface datum, March 15, 1998; lowest, 41.37 ft below land-surface datum, December 16,19, 1990.

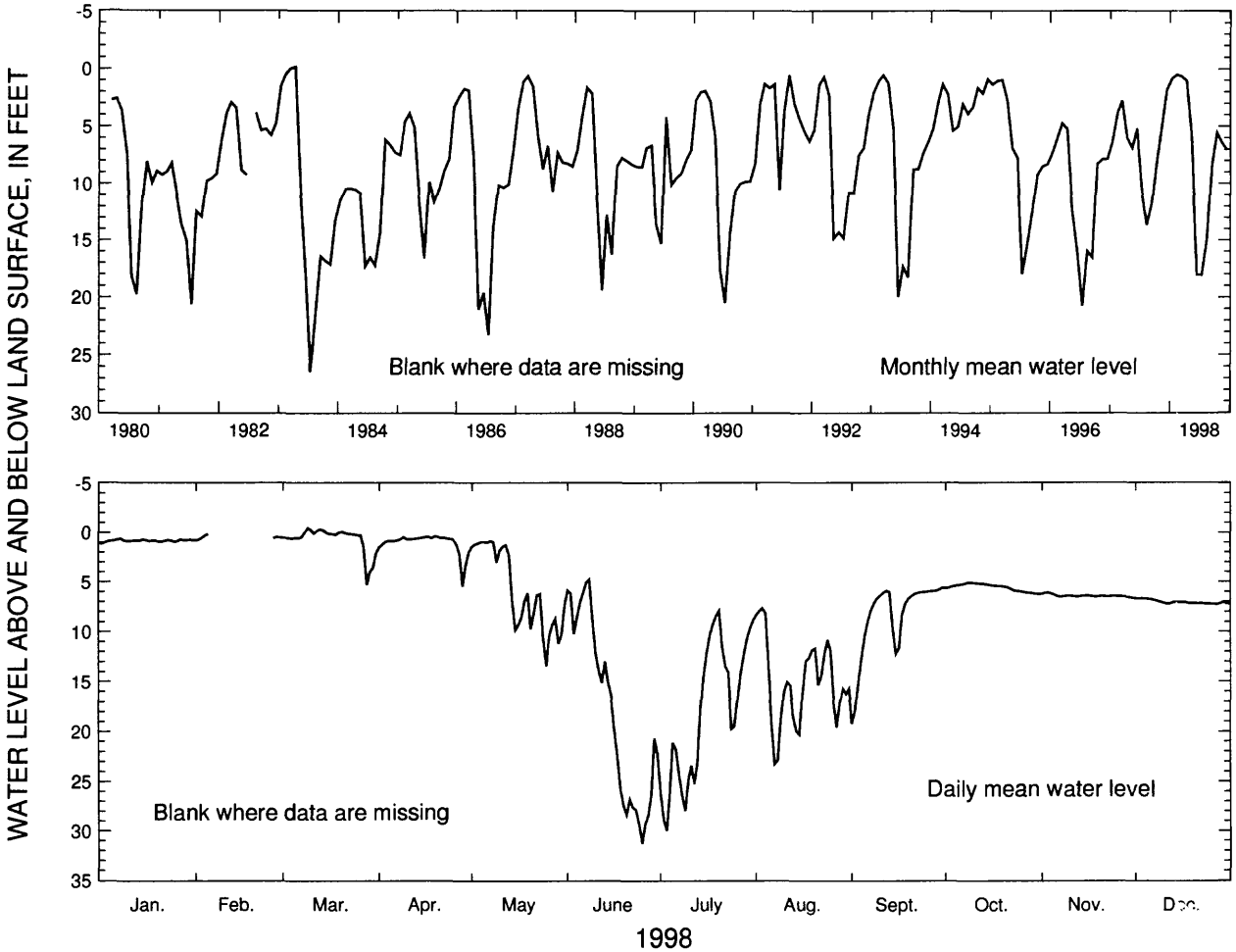


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	19.98	17.98	12.54	15.20	18.39	22.45	25.74	------	------	25.11	------	31.14
MEAN	20.76	19.40	14.65	16.57	20.11	24.60	26.95	------	------	26.44	------	32.22
LOW	21.20	20.85	18.07	18.40	22.53	26.63	28.04	------	------	28.10	------	33.06

SUMMARY FOR 1998 HIGH 12.54 (Mar. 15, 1998) MEAN 22.90 LOW 33.06 (Dec. 31, 1998)

Figure 48. Water level in observation well 13L049, Dougherty County.

IDENTIFICATION NUMBER.—13M006.
LOCATION.—Lat 31°43′30″, long 84°00′51″, Hydrologic Unit 03130006.
SITE NAME.—U.S. Geological Survey, test well DP-8.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 123 ft, cased to 63 ft, open hole.
DATUM.—Altitude of land-surface datum is 237 ft.
REMARKS.—Water-level data for period, February 6-25, 1998, are missing.
PERIOD OF RECORD.—March 1980 to current year. Continuous record since March 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.49 ft above land-surface datum, April 2, 1983; lowest, 33.20 ft below land-surface datum, July 31 to August 2, 1983, but may have been lower during period of missing record.



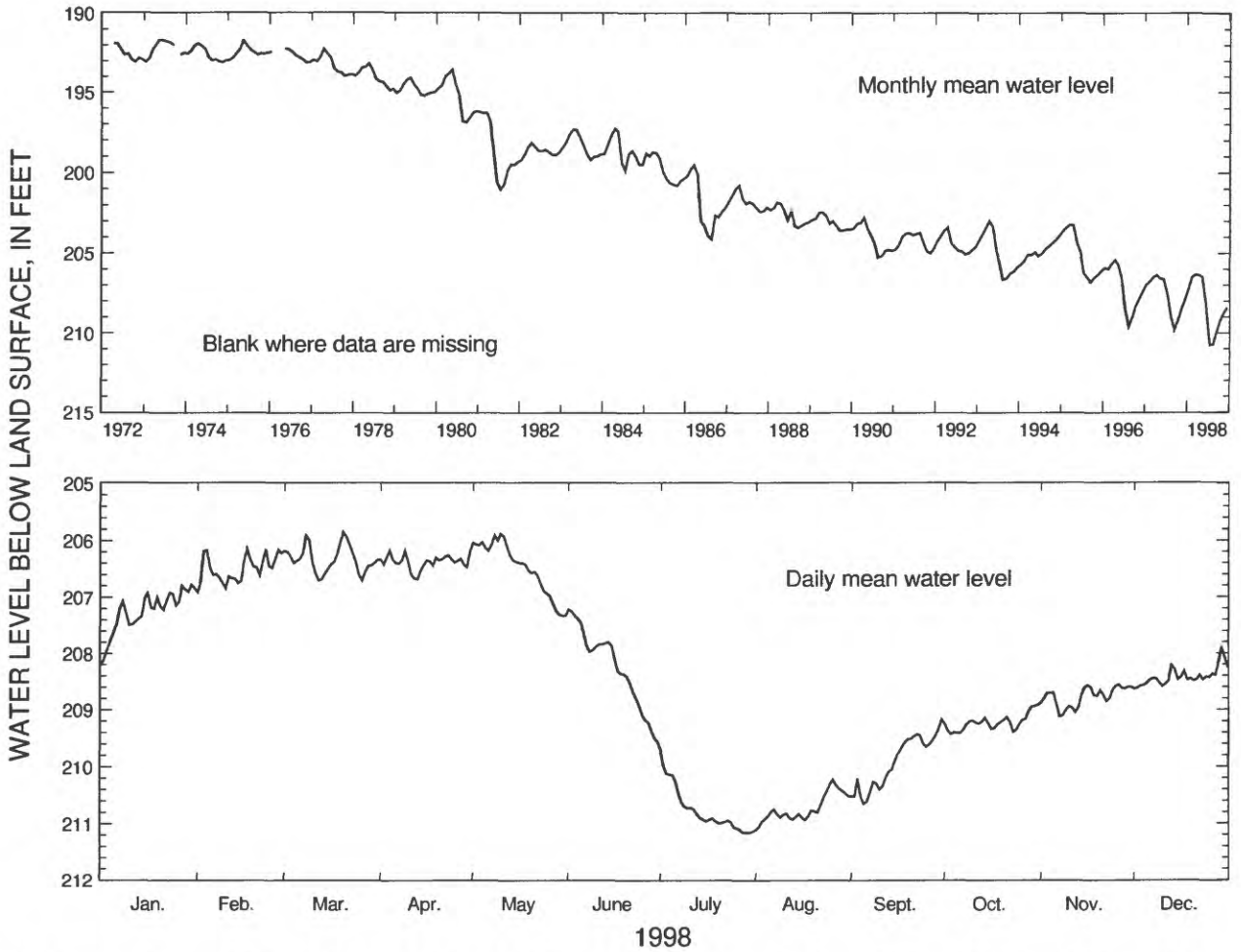
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.61	------	-0.47	0.39	0.86	4.76	7.90	7.64	5.60	5.11	6.10	6.68
MEAN	0.84	------	0.65	1.03	5.72	18.04	18.07	15.03	8.41	5.57	6.43	7.06
LOW	1.15	------	5.28	5.42	13.40	31.25	29.96	23.28	19.20	6.24	6.63	7.27

SUMMARY FOR 1998 HIGH -0.47 (Mar. 9, 1998) MEAN 7.72 LOW 31.25 (June 25, 1998)

[Negative value indicates water level above land surface]

Figure 49. Water level in observation well 13M006, Worth County.

IDENTIFICATION NUMBER.—15L020.
LOCATION.—Lat 31°31'46", long 83°49'16", Hydrologic Unit 03110204.
SITE NAME.—City of Sylvester.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused municipal well, diameter 18 in., depth 450 ft, cased to 212 ft, open hole.
DATUM.—Altitude of land-surface datum is 420 ft.
REMARKS.—None.
PERIOD OF RECORD.—April 1972 to current year. Continuous record since April 1972.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 191.50 ft below land-surface datum, May 17, 1973; lowest, 211.16 ft below land-surface datum, July 28-30, 1998.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	206.78	206.15	205.85	206.17	205.88	207.22	209.71	210.23	209.17	208.92	208.56	207.91
MEAN	207.25	206.50	206.33	206.38	206.48	208.25	210.76	210.73	209.93	209.23	208.77	208.42
LOW	208.20	206.91	206.70	206.68	207.33	209.56	211.16	211.11	210.65	209.43	209.12	208.63

SUMMARY FOR 1998 HIGH 205.85 (Mar. 20, 1998) MEAN 208.27 LOW 211.16 (July 28-30, 1998)

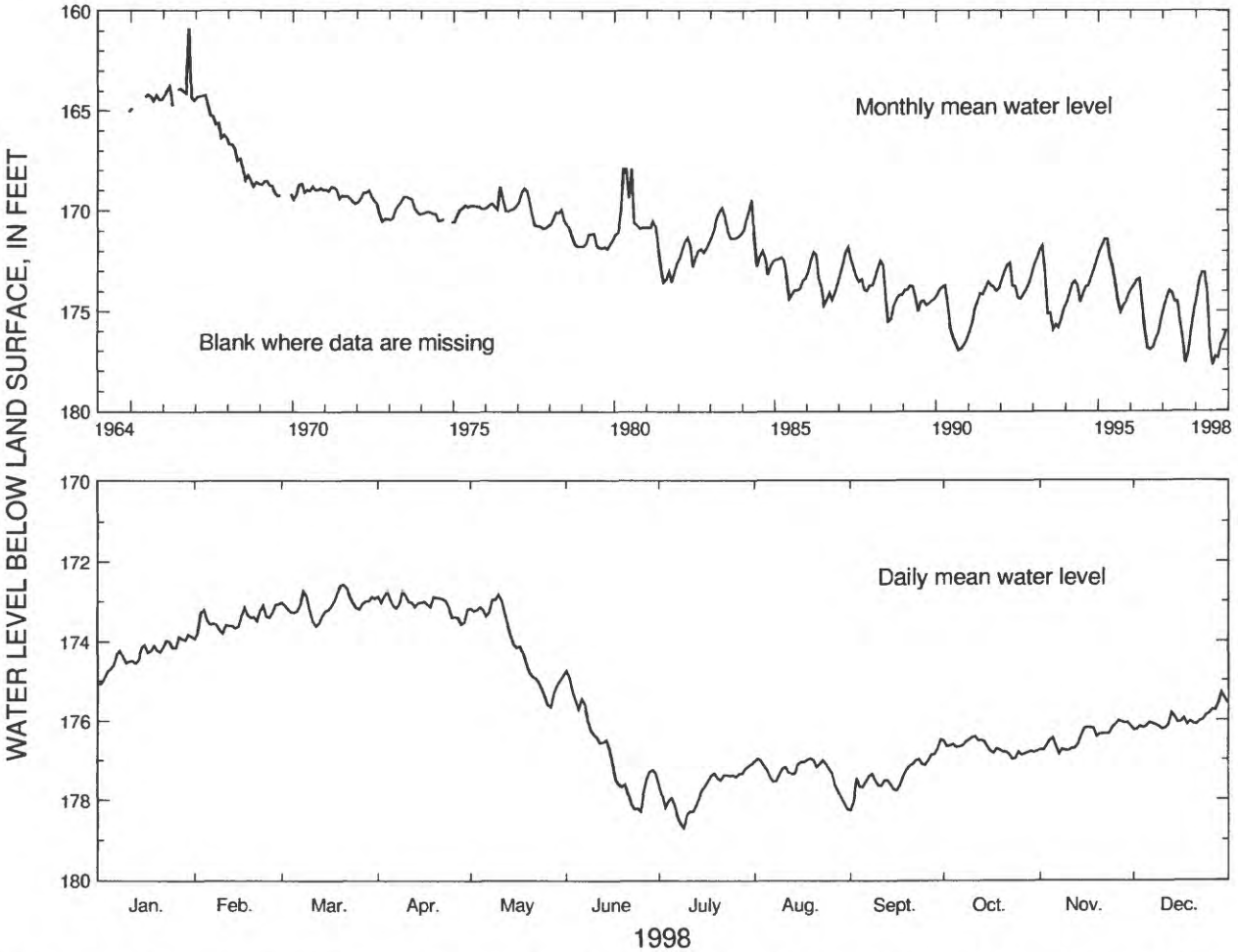
Figure 50. Water level in observation well 15L020, Worth County.

South-central area

The water level in the Upper Floridan aquifer in south-central Georgia was monitored in three wells in 1998 and data from these wells (fig.51) are summarized in figures 52-54. Water levels in wells tapping the aquifer in this area are affected by variations in precipitation, evapotranspiration, and to a lesser degree, pumping (Krause, 1979). In the Valdosta area (Lowndes County), water levels also are affected by streamflow (Krause, 1979). The water level is generally highest following the rainy seasons in winter and spring, and lowest in the fall. The Upper Floridan aquifer receives recharge from the Withlacoochee River north of Valdosta where water from the river flows directly into sinkholes and large solution openings in the aquifer. In this area, increased precipitation and streamflow in winter and early spring result in higher ground-water levels. During most years, decreased precipitation and increased evapotranspiration in the summer results in lower streamflow and correspondingly, lower ground-water levels.

Figure 51. Location of observation wells completed in Upper Floridan aquifer, south-central area.

IDENTIFICATION NUMBER.—18H016.
LOCATION.—Lat 31°08′13″, long 83°26′03″, Hydrologic Unit 03110203.
SITE NAME.—U.S. Geological Survey, Adel test well.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 8 in., depth 865 ft, cased to 207 ft, open hole.
DATUM.—Altitude of land-surface datum is 241 ft.
REMARKS.—None.
PERIOD OF RECORD.—December 1964 to current year. Continuous record since June 1965.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 163.34 ft below land-surface datum, July 5, 1966; lowest, 178.69 ft below land-surface datum, July 9, 1998.

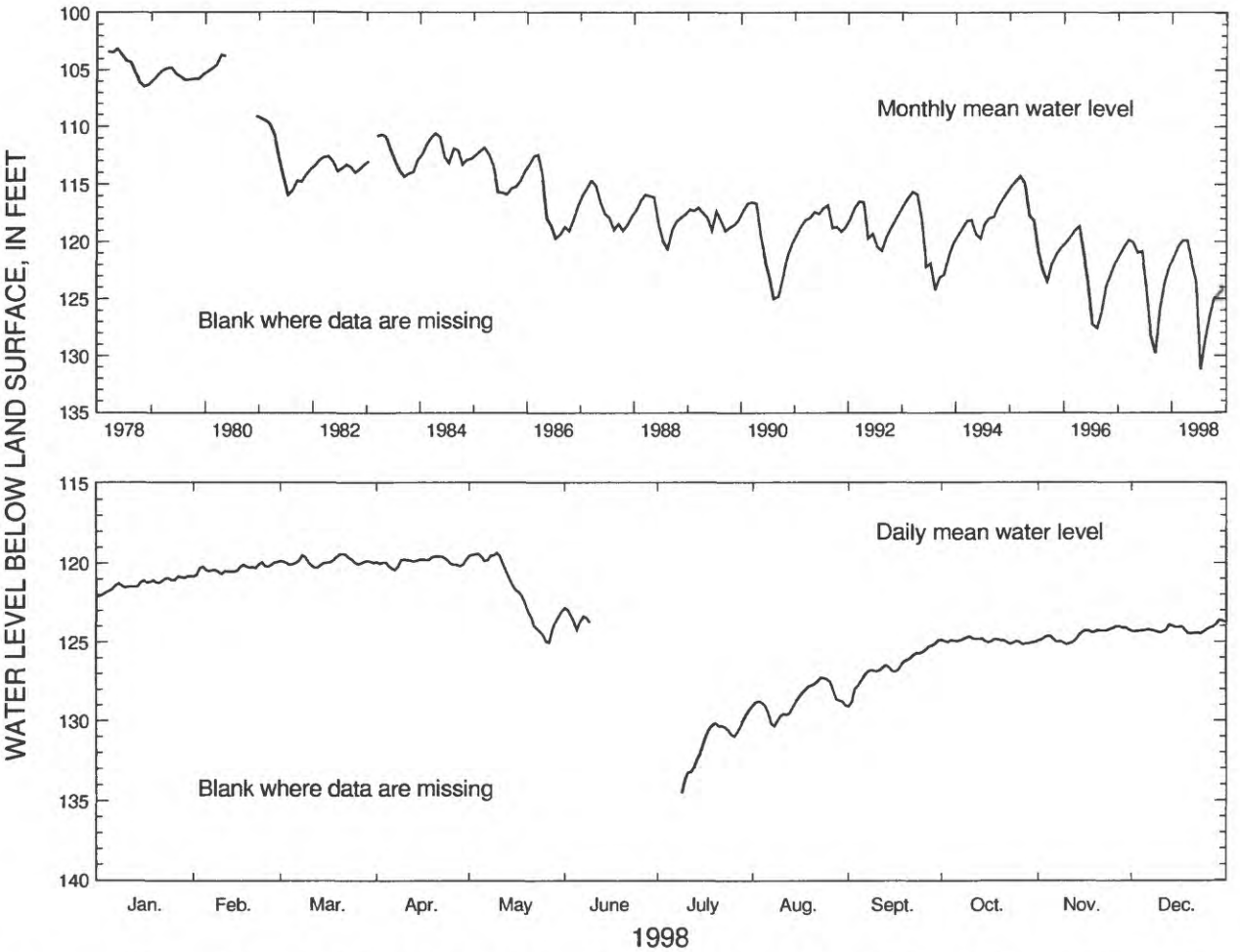


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	173.82	173.06	172.58	172.74	172.82	174.74	177.11	176.97	176.49	176.41	176.01	175.31
MEAN	174.32	173.44	173.07	173.06	174.12	176.79	177.76	177.31	177.37	176.70	176.42	175.97
LOW	175.07	173.92	173.61	173.56	175.65	178.28	178.69	178.24	178.26	176.99	176.86	176.24

SUMMARY FOR 1998 HIGH 172.58 (Mar. 21, 1998) MEAN 175.54 LOW 178.69 (July 9, 1998)

Figure 52. Water level in observation well 18H016, Cook County.

IDENTIFICATION NUMBER.—18K049.
LOCATION.—Lat 31°27′12″, long 82°59′33″, Hydrologic Unit 03110203.
SITE NAME.—U.S. Geological Survey, test well 1.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 620 ft, cased to 270 ft, open hole.
DATUM.—Altitude of land-surface datum is 330 ft.
REMARKS.—Water-level data for period, June 10 to July 8, 1998, are missing.
PERIOD OF RECORD.—March 1978 to current year. Continuous record since March 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 102.70 ft below land-surface datum, May 14, 1978; lowest, 134.52 ft below land-surface datum, July 9, 1998, but may have been lower during period of missing record.

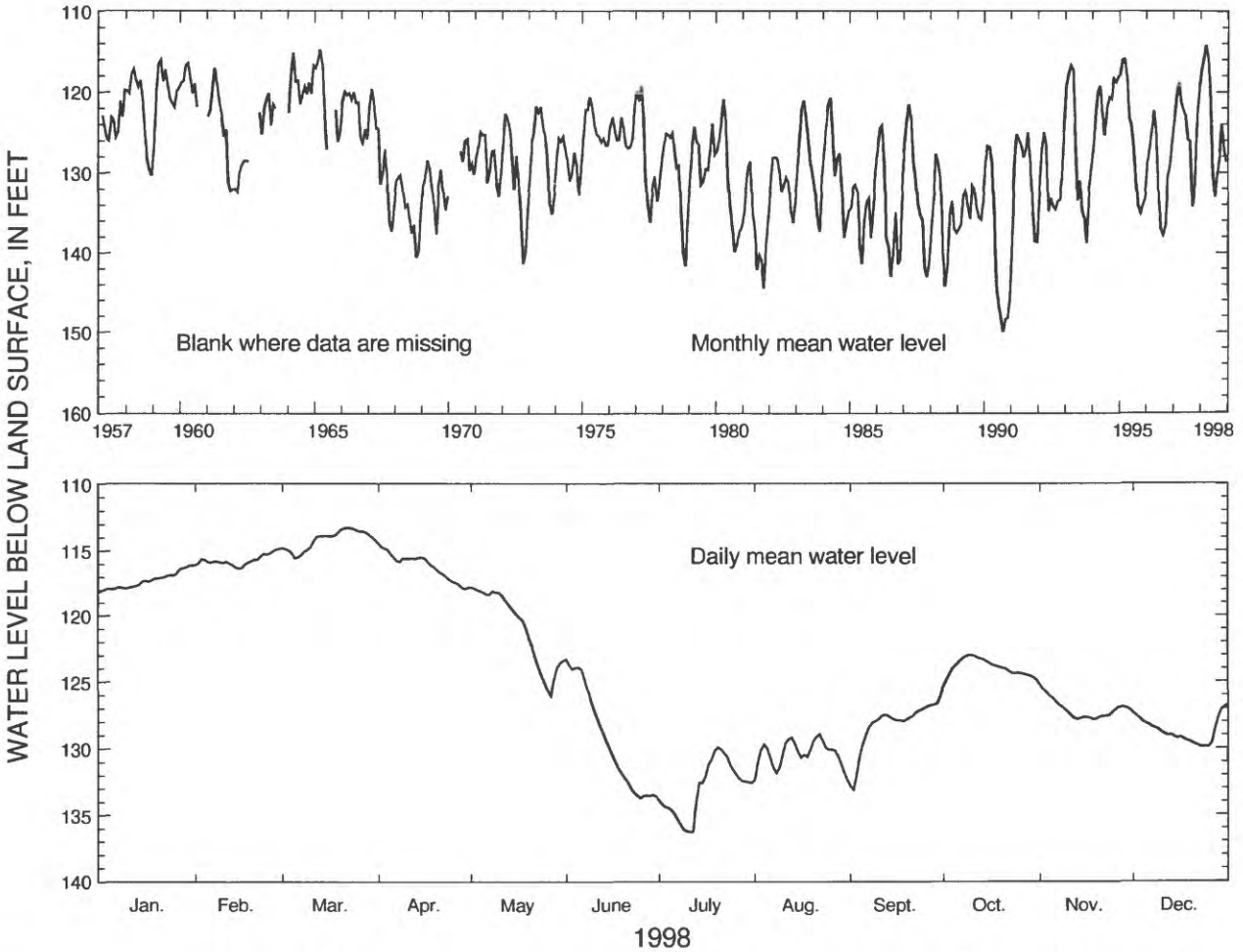


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	120.82	119.94	119.41	119.56	119.35	------	------	127.28	124.89	124.67	124.04	123.63
MEAN	121.31	120.35	119.89	119.91	121.75	------	------	128.68	126.54	124.94	124.55	124.21
LOW	122.11	120.84	120.29	120.44	125.04	------	------	130.34	129.11	125.17	125.16	124.50

SUMMARY FOR 1998 HIGH 119.35 (May 10, 1998) MEAN 123.79 LOW 134.52 (July 9, 1998)

Figure 53. Water level in observation well 18K049, Tift County.

IDENTIFICATION NUMBER.—19E009.
LOCATION.—Lat 30°49′51″, long 83°16′58″, Hydrologic Unit 03110202.
SITE NAME.—City of Valdosta.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused municipal supply well, diameter 20 in., depth 342 ft, cased to 200 ft, open hole.
DATUM.—Altitude of land-surface datum is 217 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1957 to current year. Continuous record since February 1957.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 112.69 ft below land-surface datum, March 9, 1964; lowest, 151.79 ft below land-surface datum, September 19, 1990.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	116.10	114.84	113.27	114.45	117.80	123.31	129.91	128.94	126.06	123.00	125.23	126.77
MEAN	117.29	115.72	114.16	116.13	120.84	129.43	133.02	130.39	128.22	123.96	127.10	128.70
LOW	118.16	116.34	115.55	117.91	126.04	133.72	136.26	132.38	133.11	125.38	127.84	129.90

SUMMARY FOR 1998 HIGH 113.27 (Mar. 22, 1998) MEAN 123.80 LOW 136.26 (July 11, 1998)

Figure 54. Water level in observation well 19E009, Lowndes County.

East-central area

The water level in the Upper Floridan aquifer in east-central Georgia was monitored in three wells in 1998 and data from these wells (fig. 55) are summarized in figures 56-58. Well 21T001 (fig. 56) in Laurens County is located near the recharge area for the Upper Floridan aquifer, and the water level in this well responds mainly to seasonal fluctuations in precipitation (Krause and Randolph, 1989).

Base modified from U.S.Geological Survey
State base map

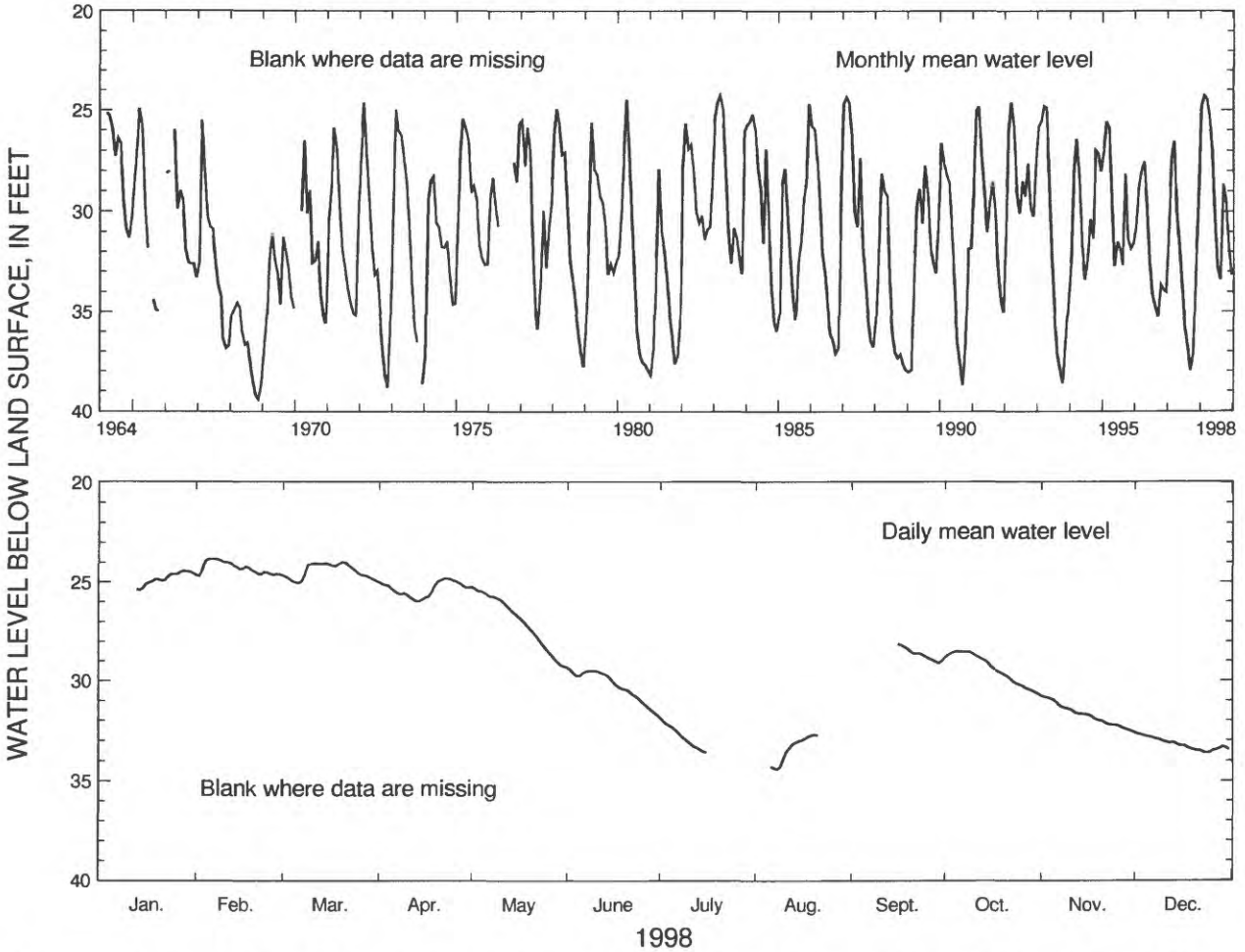
EXPLANATION

EAST-CENTRAL AREA

25Q001 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 55. Location of observation wells completed in Upper Floridan aquifer, east-central area.

IDENTIFICATION NUMBER.—21T001.
LOCATION.—Lat 32°27'06", long 83°03'28", Hydrologic Unit 03070102.
SITE NAME.—Danny Hogan.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 4 in., depth 123 ft, cased to 89 ft, open hole.
DATUM.—Altitude of land-surface datum is 259 ft.
REMARKS.—Water-level data for periods, January 1-12, July 17 to August 5, and August 22 to September 15, 1998, are missing.
PERIOD OF RECORD.—March 1964 to current year. Continuous record since March 1964.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 23.62 ft below land-surface datum, January 26, 1987; lowest, 39.58 ft below land-surface datum, November 12, 1968.

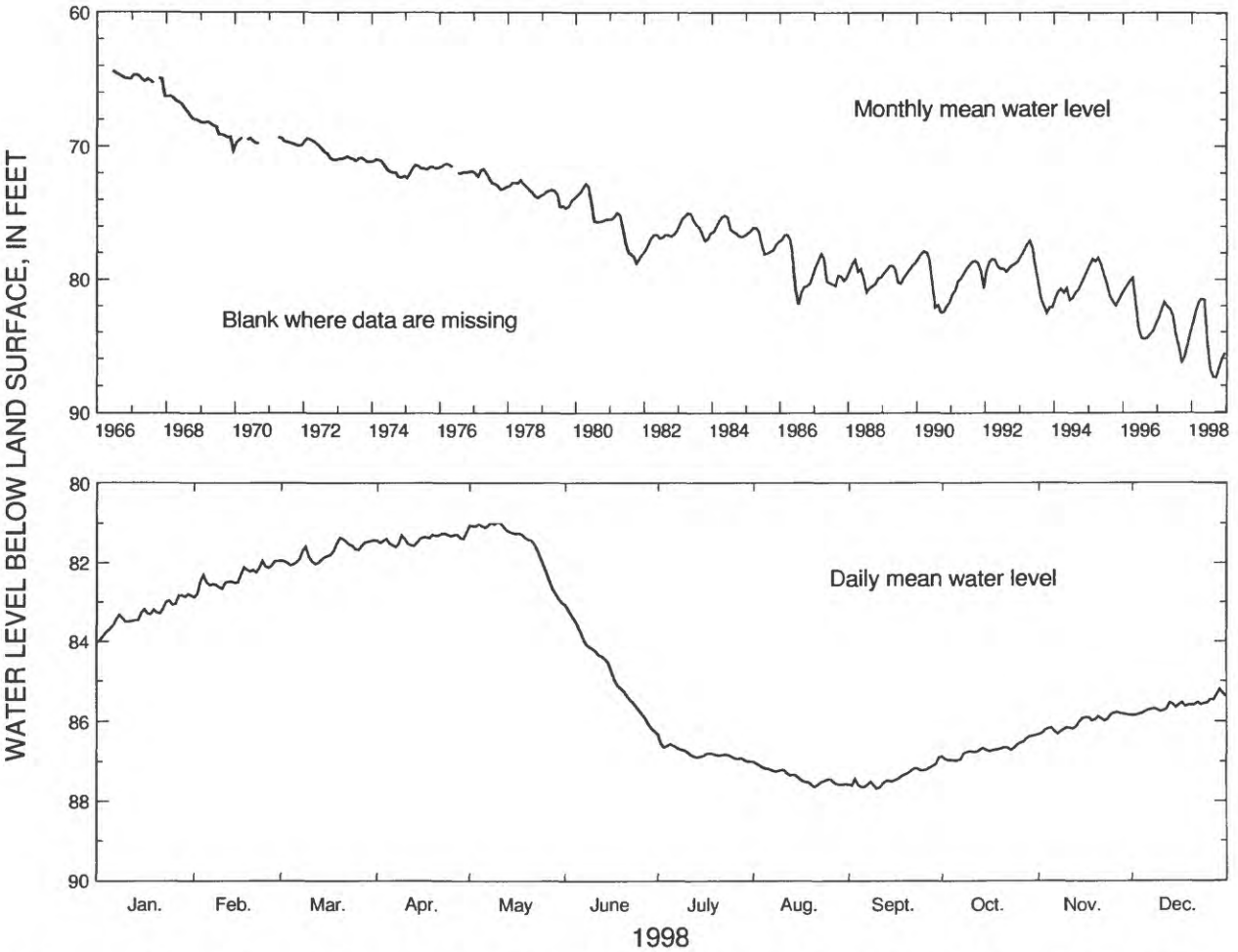


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	23.84	23.99	24.82	25.24	29.32	------	------	------	28.51	30.76	32.60
MEAN	------	24.29	24.44	25.34	26.96	30.22	------	------	------	29.38	31.72	33.18
LOW	------	24.70	25.04	25.96	29.26	31.71	------	------	------	30.66	32.54	33.61

SUMMARY FOR 1998 HIGH 23.84 (Feb. 5-7, 1998) MEAN 28.55 LOW 34.43 (Aug. 8, 1998)

Figure 56. Water level in observation well 21T001, Laurens County.

IDENTIFICATION NUMBER.—25Q001.
LOCATION.—Lat 32°02'25", long 82°30'05", Hydrologic Unit 03070106.
SITE NAME.—Montgomery County Board of Education.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 6 in., depth 536 ft, cased to 421 ft, open hole.
DATUM.—Altitude of land-surface datum is 190 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1966 to current year. Continuous record since June 1966.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 64.13 ft below land-surface datum, June 10, 1966; lowest, 87.68 ft below land-surface datum, September 10, 1998.

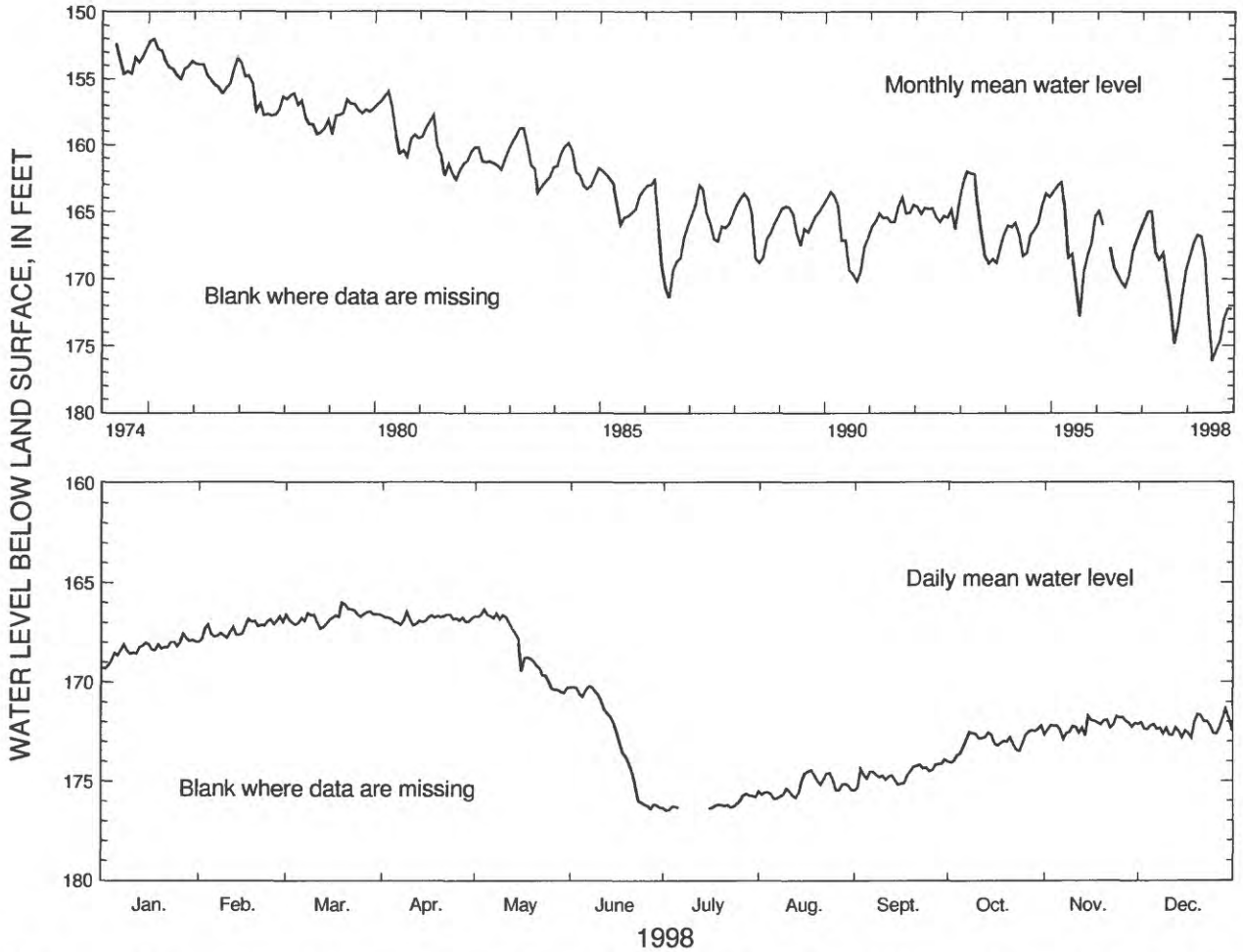


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	82.79	81.95	81.36	81.22	80.97	83.07	86.32	87.00	86.90	86.35	85.77	85.20
MEAN	83.31	82.34	81.72	81.39	81.53	84.73	86.79	87.38	87.40	86.71	86.03	85.60
LOW	84.02	82.87	82.05	81.59	83.01	86.25	87.00	87.64	87.68	86.98	86.33	85.85

SUMMARY FOR 1998 HIGH 80.97 (May 10, 1998) MEAN 84.59 LOW 87.68 (Sept. 10, 1998)

Figure 57. Water level in observation well 25Q001, Montgomery County.

IDENTIFICATION NUMBER.—26R001.
LOCATION.—Lat 32°13′02″, long 82°24′36″, Hydrologic Unit 03070107.
SITE NAME.—City of Vidalia, well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled municipal supply well, diameter 12 in., depth 1,000 ft, cased to 720 ft, open hole.
DATUM.—Altitude of land-surface datum is 285 ft.
REMARKS.—Water-level data for period, July 7-15, 1998, are missing.
PERIOD OF RECORD.—April 1974 to current. Continuous record since April 1974.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 151.64 ft below land-surface datum, April 15, 1974; lowest, 176.46 ft below land-surface datum, July 2, 1998.



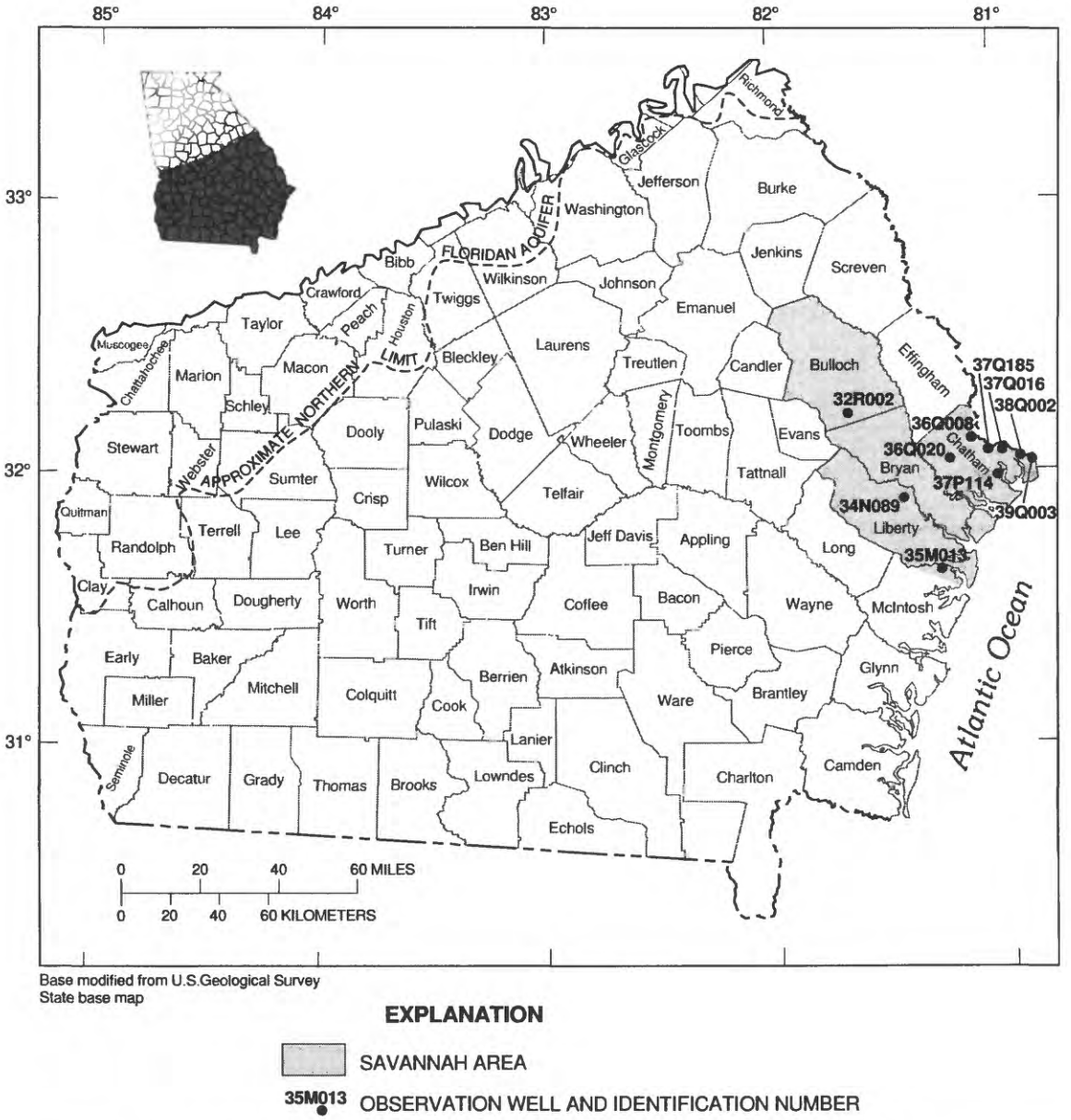
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	167.58	166.71	166.01	166.47	166.32	170.21	------	174.45	173.93	172.21	171.72	171.38
MEAN	168.32	167.31	166.70	166.82	168.32	172.94	------	175.28	174.63	173.00	172.20	172.26
LOW	169.33	167.98	167.32	167.15	170.55	176.39	------	175.92	175.47	174.09	172.89	172.82

SUMMARY FOR 1998 HIGH 166.01 (Mar. 19, 1998) MEAN 171.06 LOW 176.46 (July 2, 1998)

Figure 58. Water level in observation well 26R001, Toombs County.

Savannah area

The water level in the Upper Floridan aquifer in the Savannah area was monitored in 12 wells in 1998 and data from 10 of these wells (fig. 59) are summarized in figures 60-69. In this area, the water level in the Upper Floridan aquifer is mainly affected by pumping for public supply and industrial uses.



Base modified from U.S.Geological Survey
State base map

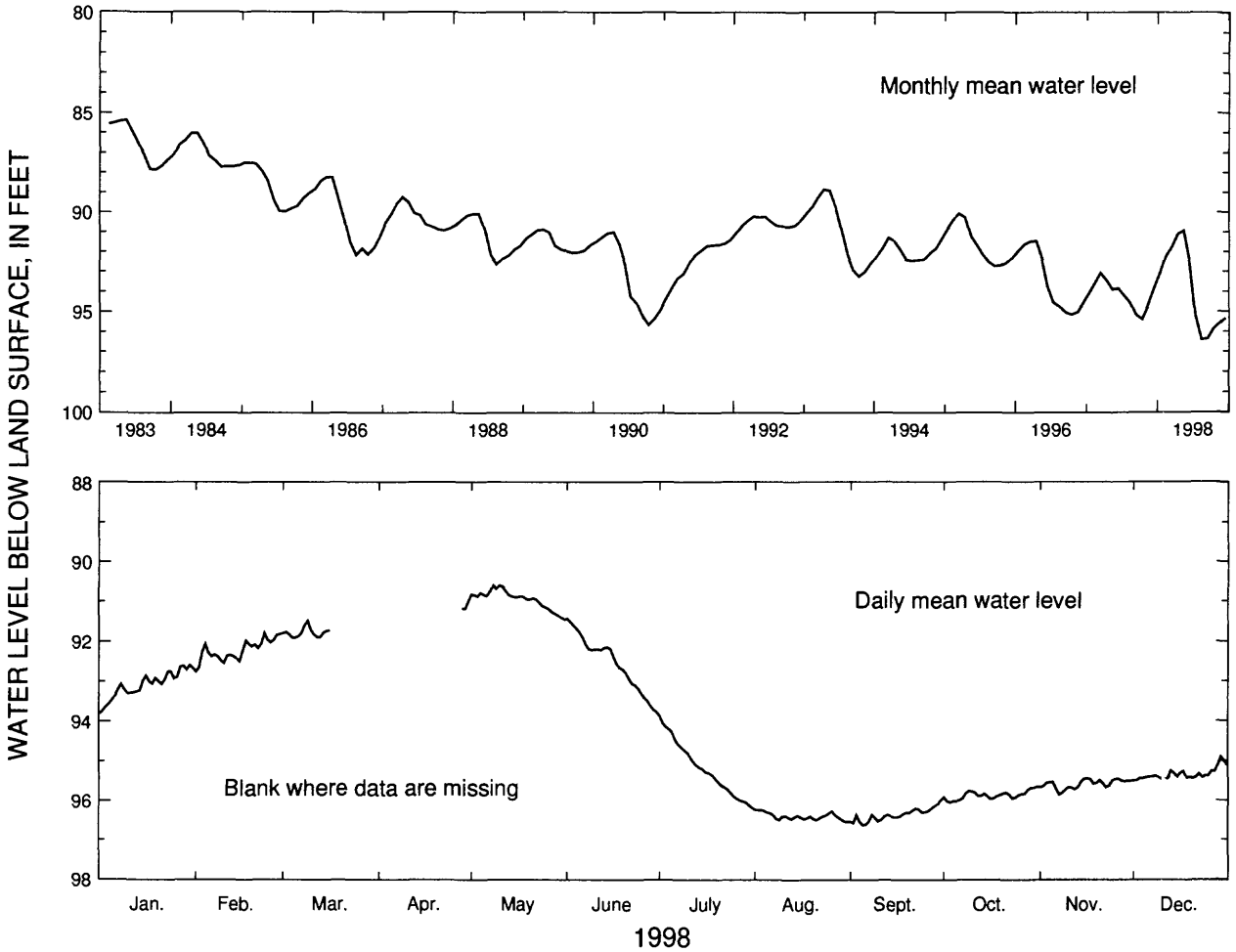
EXPLANATION

SAVANNAH AREA

35M013 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 59. Location of observation wells completed in Upper Floridan aquifer, Savannah area.

IDENTIFICATION NUMBER.—32R002.
LOCATION.—Lat 32°12'40", long 81°41'15", Hydrologic Unit 03060202.
SITE NAME.—Georgia Geologic Survey, Bulloch South, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 804 ft, cased to 420 ft, open hole.
DATUM.—Altitude of land-surface datum is 120 ft.
REMARKS.—Water-level data for period, March 17 to April 27, 1998, are missing.
PERIOD OF RECORD.—February 1983 to current year. Continuous record since February 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 85.08 ft below land-surface datum, April 24, 19?3; lowest, 96.63 ft below land-surface datum, September 5, 1998.

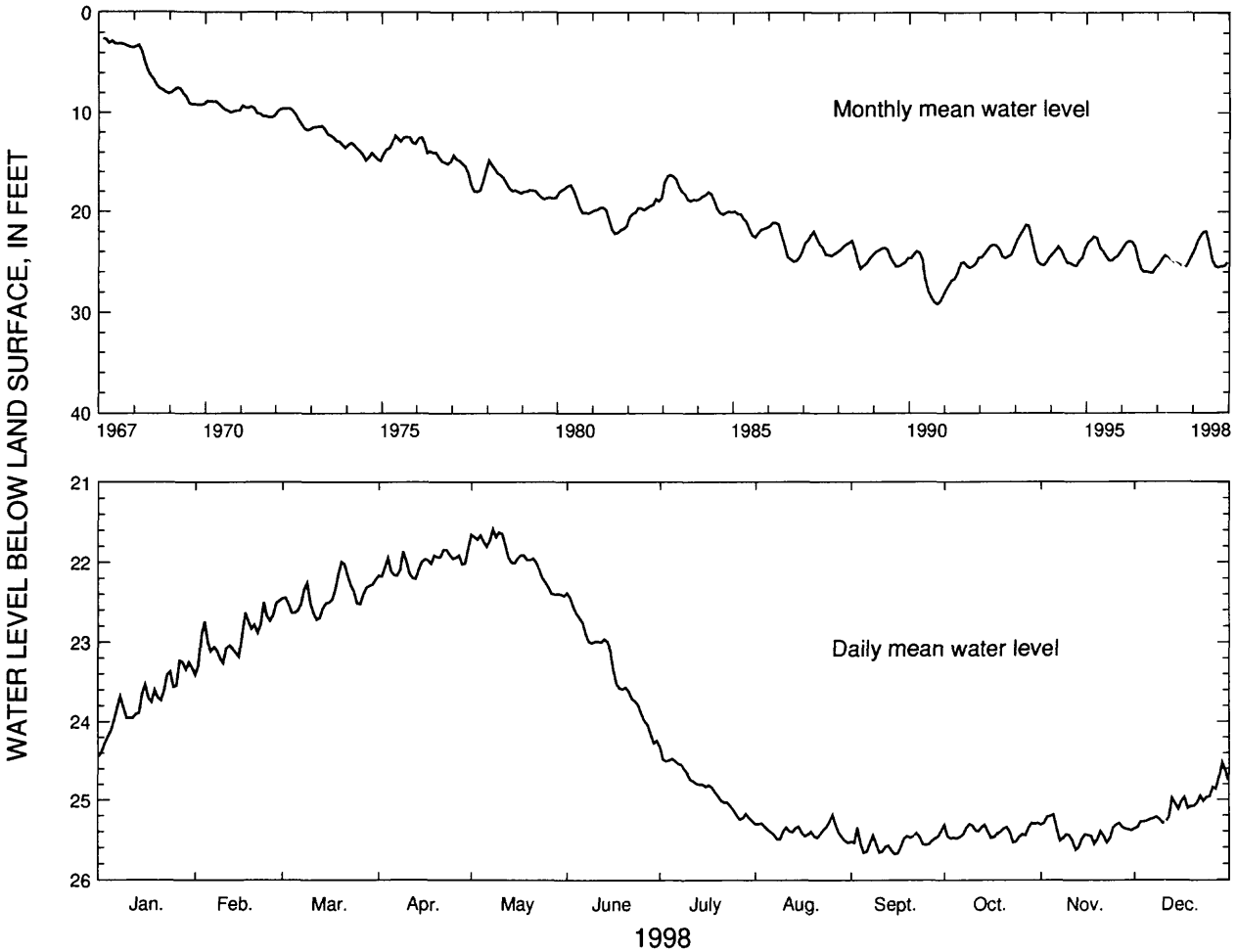


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	92.60	91.79	------	------	90.60	91.43	93.87	96.24	95.99	95.67	95.46	?4.91
MEAN	93.09	92.22	------	------	90.94	92.54	95.20	96.41	96.38	95.88	95.60	?5.35
LOW	93.80	92.75	------	------	91.44	93.77	96.18	96.55	96.63	96.05	95.87	?5.51

SUMMARY FOR 1998 HIGH 90.60 (May 8, 10, 1998) MEAN 94.22 LOW 96.63 (Sept. 5, 1998)

Figure 60. Water level in observation well 32R002, Bulloch County.

IDENTIFICATION NUMBER.—34N089.
LOCATION.—Lat 31°52'14", long 81°23'53", Hydrologic Unit 03060204.
SITE NAME.—U.S. Geological Survey, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 789 ft, cased to 410 ft, open hole.
DATUM.—Altitude of land-surface datum is 17 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1967 to current year. Continuous record since February 1967.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 2.34 ft below land-surface datum, March 6, 1967; lowest, 29.43 ft below land-surface datum, October 3, 1990.

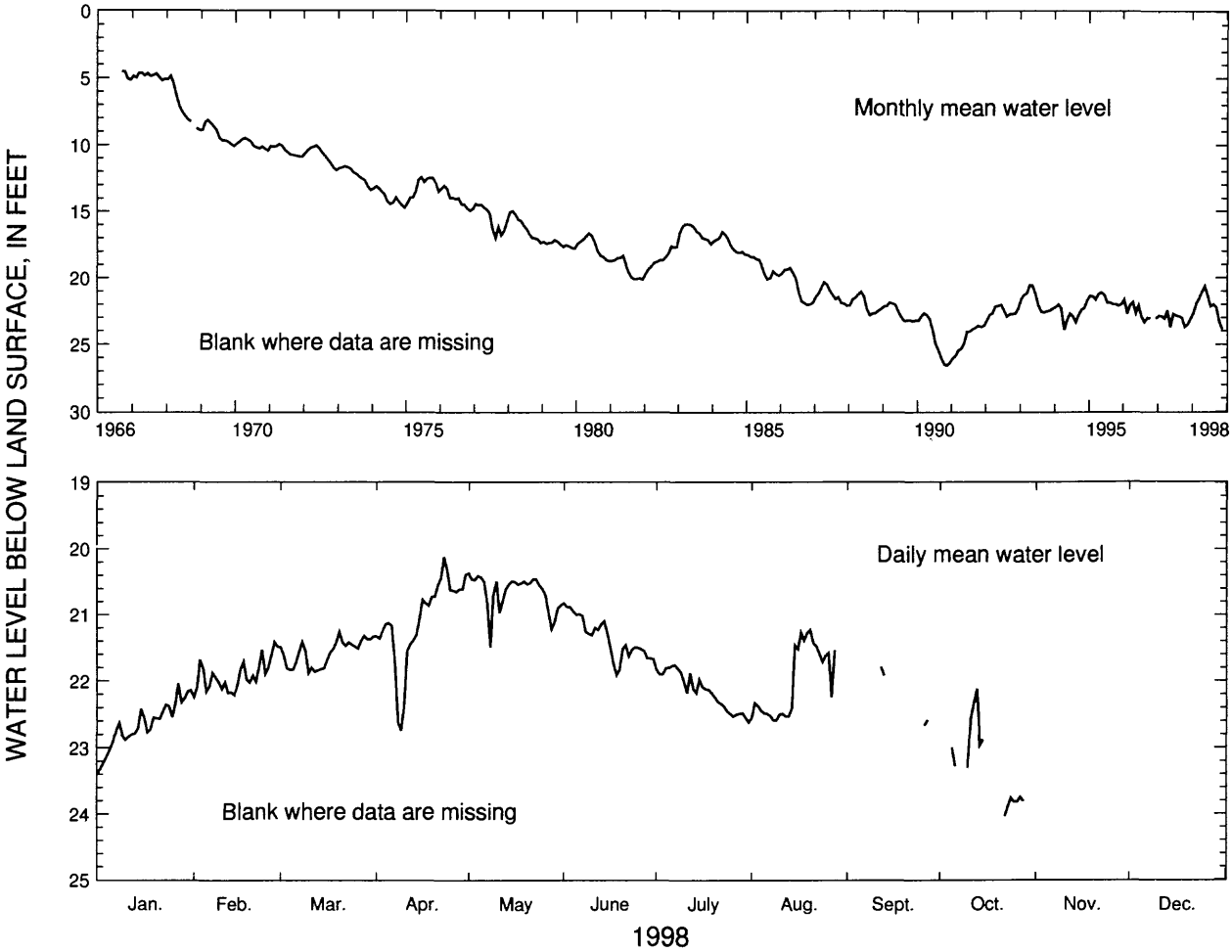


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	23.23	22.48	21.99	21.81	21.58	22.38	24.32	25.19	25.35	25.30	25.19	24.52
MEAN	23.74	22.92	22.41	22.01	21.96	23.32	24.84	25.40	25.54	25.41	25.42	25.06
LOW	24.44	23.41	22.71	22.20	22.42	24.27	25.27	25.54	25.68	25.54	25.63	25.37

SUMMARY FOR 1998 HIGH 21.58 (May 8, 1998) MEAN 24.01 LOW 25.68 (Sept. 15, 1998)

Figure 61. Water level in observation well 34N089, Liberty County.

IDENTIFICATION NUMBER.—35M013.
LOCATION.—Lat 31°38′23″, long 81°15′42″, Hydrologic Unit 03060204.
SITE NAME.—U.S. Fish and Wildlife Service.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 10 in., depth 553 ft, cased to 376 ft, open hole.
DATUM.—Altitude of land-surface datum is 16.3 ft.
REMARKS.—Water-level data for periods, August 29 to September 3, September 5-11, 14-25, September 28 to October 4, October 7-9, 16-21, October 29 to November 7, and November 9 to December 31, 1998, are missing.
PERIOD OF RECORD.—September 1966 to current year. Continuous record since September 1966.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.35 ft below land-surface datum, October 4, 1966; lowest, 26.88 ft below land-surface datum, November 14, 1990.

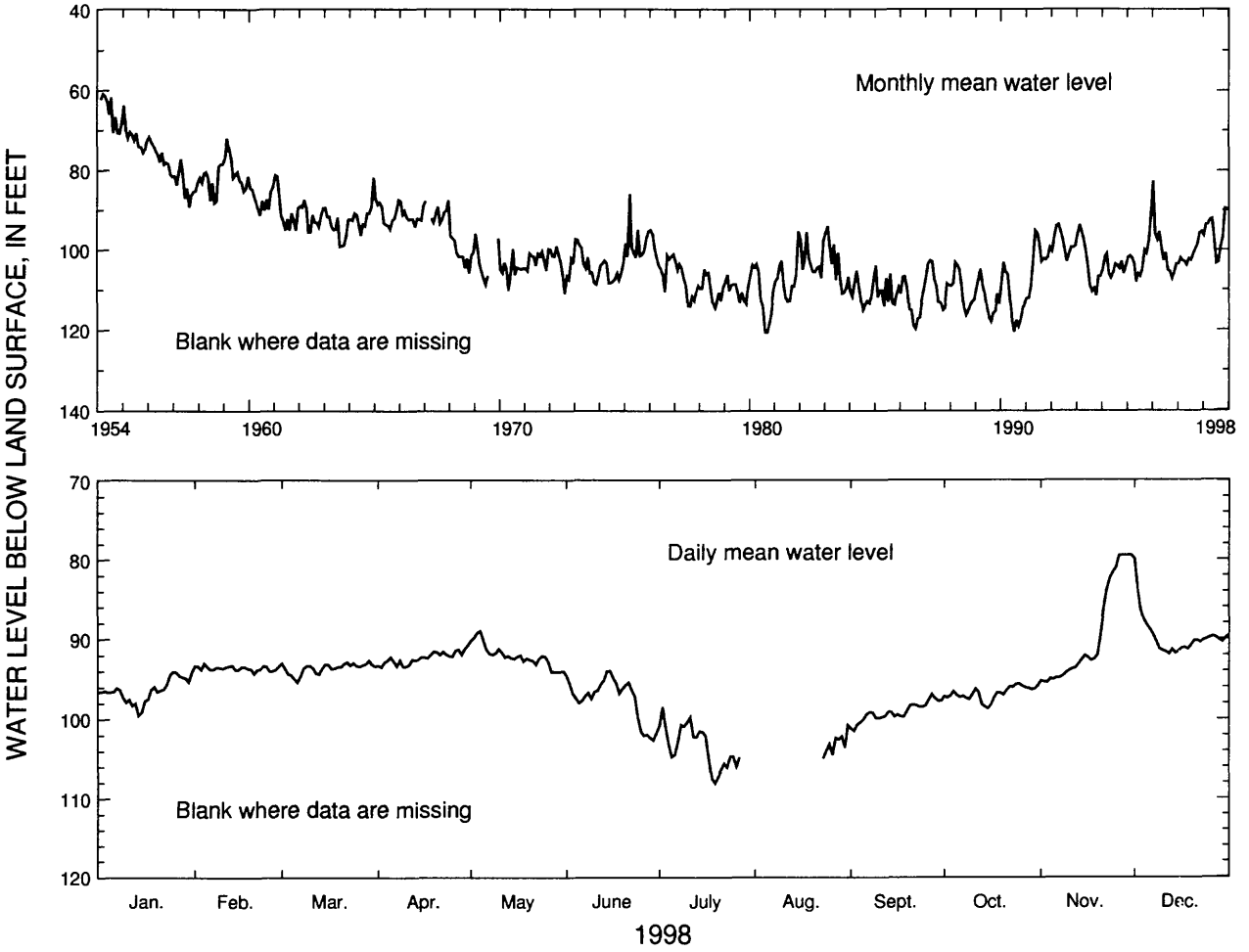


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	22.04	21.41	21.26	20.12	20.37	20.82	21.76	21.23	------	------	------	------
MEAN	22.66	21.92	21.57	21.08	20.66	21.35	22.15	22.01	------	------	------	------
LOW	23.39	22.24	21.88	22.74	21.49	21.91	22.62	22.59	------	------	------	------

SUMMARY FOR 1998 HIGH 20.12 (Apr. 23, 1998) MEAN 21.78 LOW 24.04 (Oct. 22, 1998)

Figure 62. Water level in observation well 35M013, McIntosh County.

IDENTIFICATION NUMBER.—36Q008.
LOCATION.—Lat 32°05′30″, long 81°08′50″, Hydrologic Unit 03060204.
SITE NAME.—Layne-Atlantic Co.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 4 in., depth 406 ft, cased to 250 ft, open hole.
DATUM.—Altitude of land-surface datum is 9.91 ft.
REMARKS.—Water-level data for period, July 28 to August 22, 1998, are missing.
PERIOD OF RECORD.—February 1954 to current year. Continuous record since February 1954.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 49.17 ft below land-surface datum, July 11, 1954; lowest, 124.40 ft below land-surface datum, August 30, 1980.

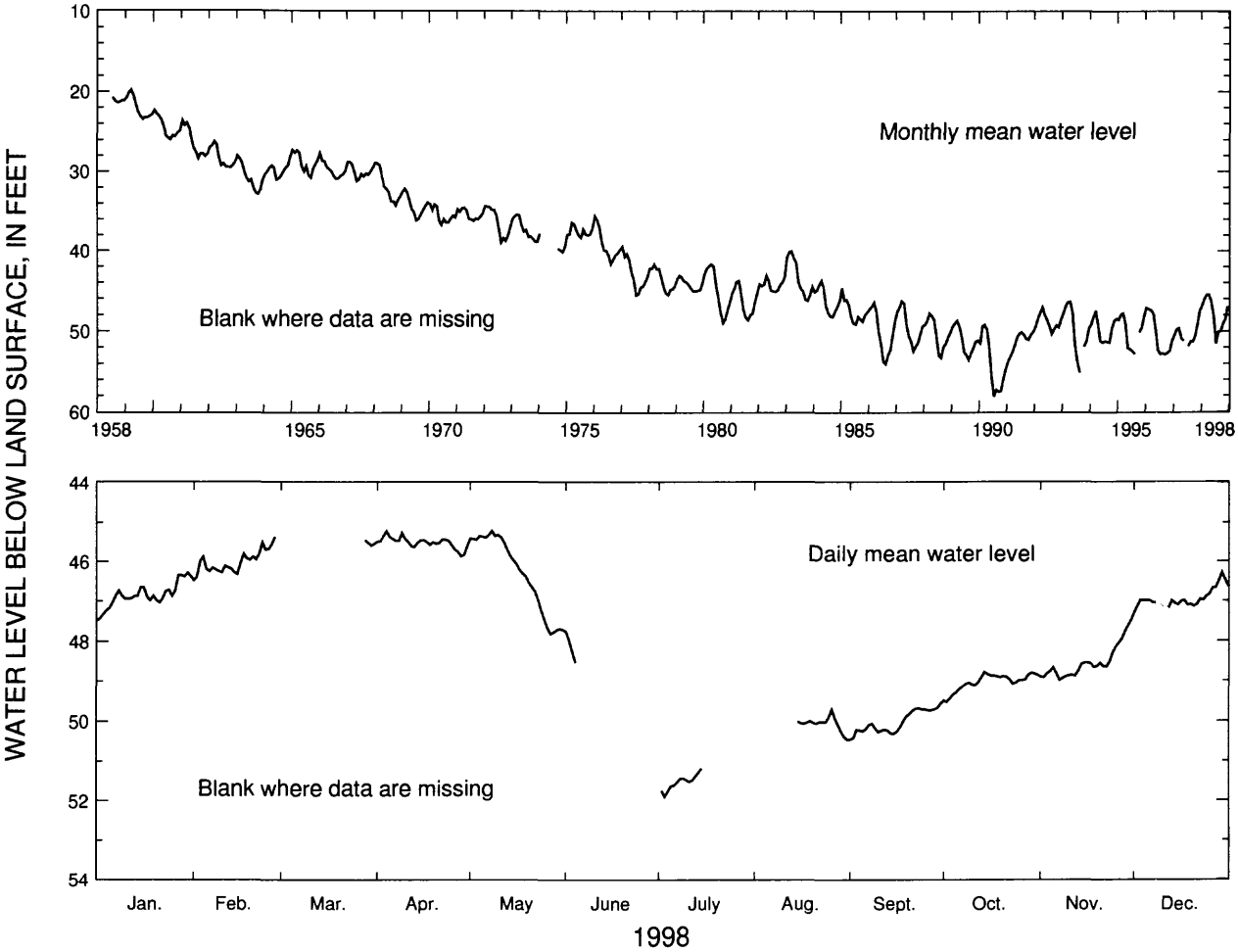


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	94.04	92.97	92.64	90.68	88.96	93.98	98.45	------	96.91	95.61	79.46	79.90
MEAN	96.38	93.57	93.57	92.28	92.07	97.43	103.43	------	99.13	96.82	89.51	89.67
LOW	99.51	94.25	95.37	93.45	94.10	102.64	108.07	------	101.47	98.66	95.44	91.89

SUMMARY FOR 1998 HIGH 79.46 (Nov. 27-30, 1998) MEAN 95.03 LOW 108.07 (July 19, 1998)

Figure 63. Water level in observation well 36Q008, Chatham County.

IDENTIFICATION NUMBER.—36Q020.
LOCATION.—Lat 32°00′18″, long 81°12′48″, Hydrologic Unit 03060204.
SITE NAME.—H.J. Morrison.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 3 in., depth 365 ft, cased to 330 ft, open hole.
DATUM.—Altitude of land-surface datum is 13 ft.
REMARKS.—Water-level data for periods, March 1-27, June 5 to July 1, and July 16 to August 14, 1998, are missing.
PERIOD OF RECORD.—December 1957 to current year. Continuous record since August 1958.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 17.66 ft below land-surface datum, June 28, 1958; lowest, recorded, 58.56 ft below land-surface datum, July 12, 1990.

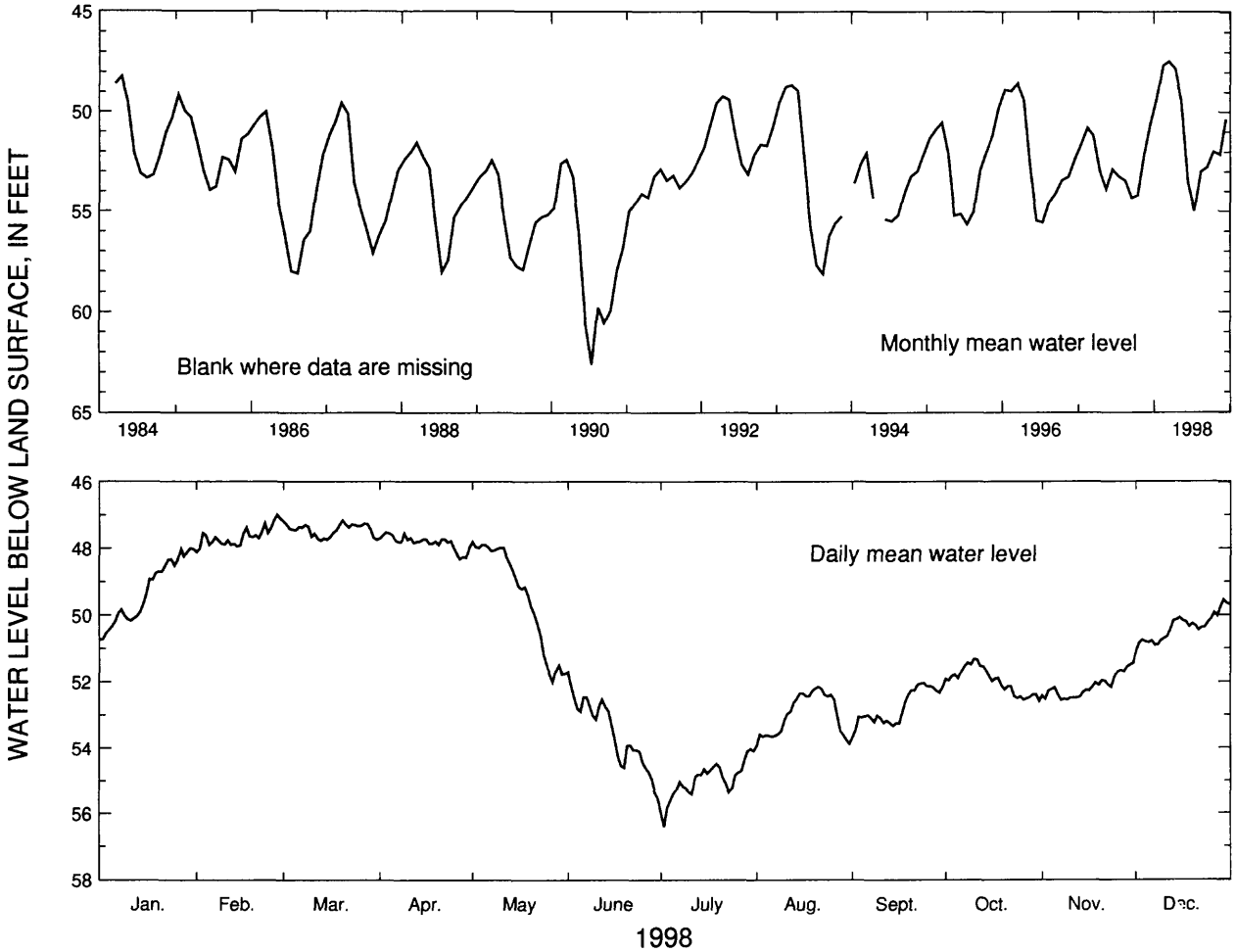


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	46.29	45.37	------	45.23	45.22	------	------	------	49.57	48.79	47.49	46.29
MEAN	46.86	46.01	------	45.51	46.29	------	------	------	50.03	49.04	48.55	46.96
LOW	47.49	46.48	------	45.87	47.82	------	------	------	50.47	49.53	48.99	47.31

SUMMARY FOR 1998 HIGH 45.22 (May 8, 1998) MEAN 47.77 LOW 51.90 (July 3, 1998)

Figure 64. Water level in observation well 36Q020, Chatham County.

IDENTIFICATION NUMBER.—37P114.
LOCATION.—Lat 31°59′06″, long 81°01′12″, Hydrologic Unit 03060204.
SITE NAME.—Georgia Geologic Survey, Skidaway Institute, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 400 ft, cased to 262 ft, open hole.
DATUM.—Altitude of land-surface datum is 10 ft.
REMARKS.—Well pumped and sampled, December 16, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—January 1984 to current year. Continuous record since January 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 46.99 ft below land-surface datum, February 27, 1998; lowest, 64.06 ft below land-surface datum, July 12, 1990.

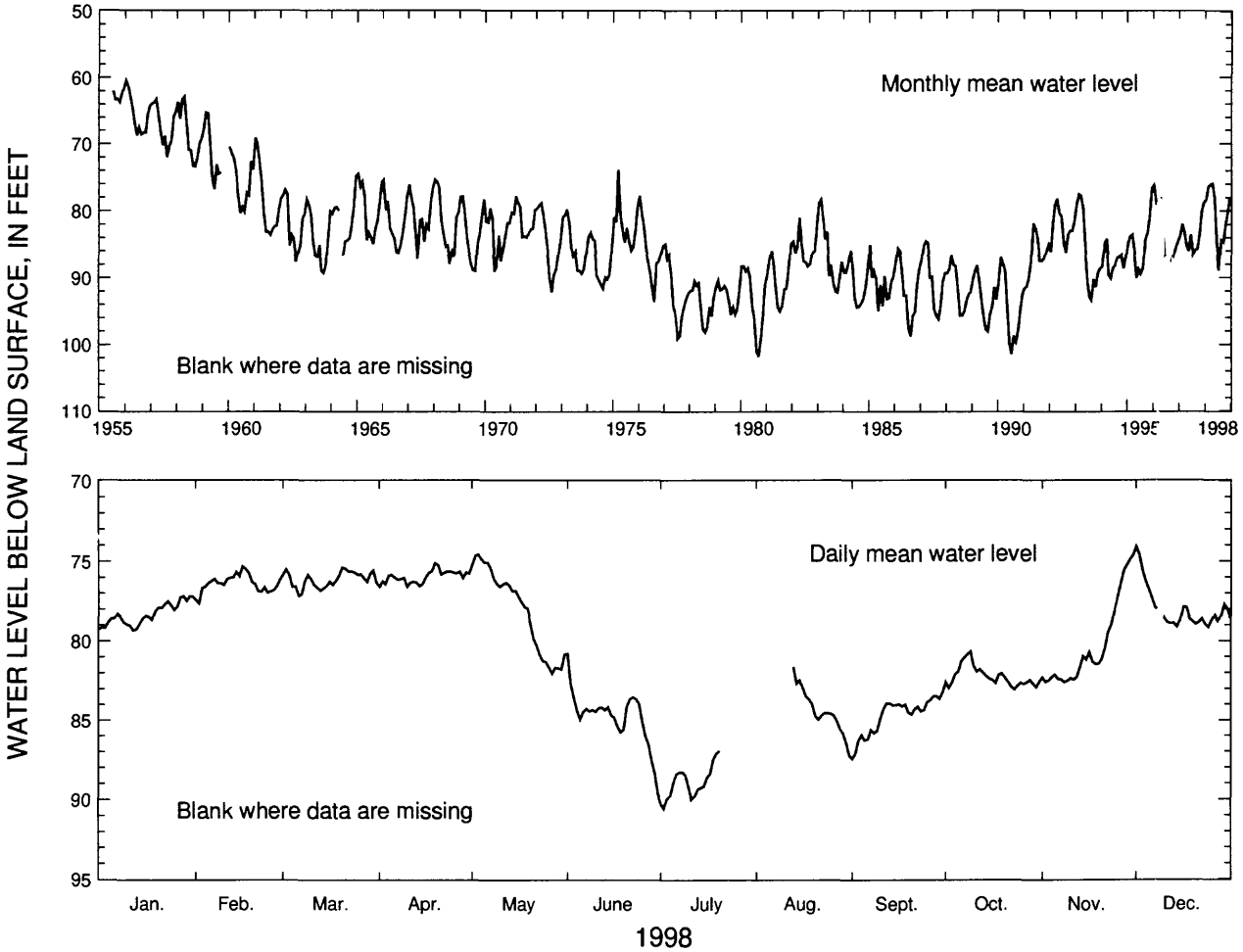


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	48.00	46.99	47.16	47.52	47.80	51.70	54.03	52.15	52.03	51.32	51.43	49.54
MEAN	49.31	47.64	47.44	47.82	49.43	53.56	54.98	52.99	52.77	51.98	52.14	50.36
LOW	50.73	48.11	47.77	48.32	51.99	55.54	56.41	53.93	53.68	52.59	52.56	51.08

SUMMARY FOR 1998 HIGH 46.99 (Feb. 27, 1998) MEAN 50.89 LOW 56.41 (July 2, 1998)

Figure 65. Water level in observation well 37P114, Chatham County.

IDENTIFICATION NUMBER.—37Q016.
LOCATION.—Lat 32°04'33", long 81°04'27", Hydrologic Unit 03060204.
SITE NAME.—East Coast Terminal.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 500 ft, cased to 260 ft, open hole.
DATUM.—Altitude of land-surface datum is 5 ft.
REMARKS.—Water-level data for period, July 21 to August 12, 1998, are missing.
PERIOD OF RECORD.—July 1955 to current year. Continuous record since July 1955.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 57.61 ft below land-surface datum, December 27, 1955; lowest, 103.53 ft below land-surface datum, July 13, 1990.

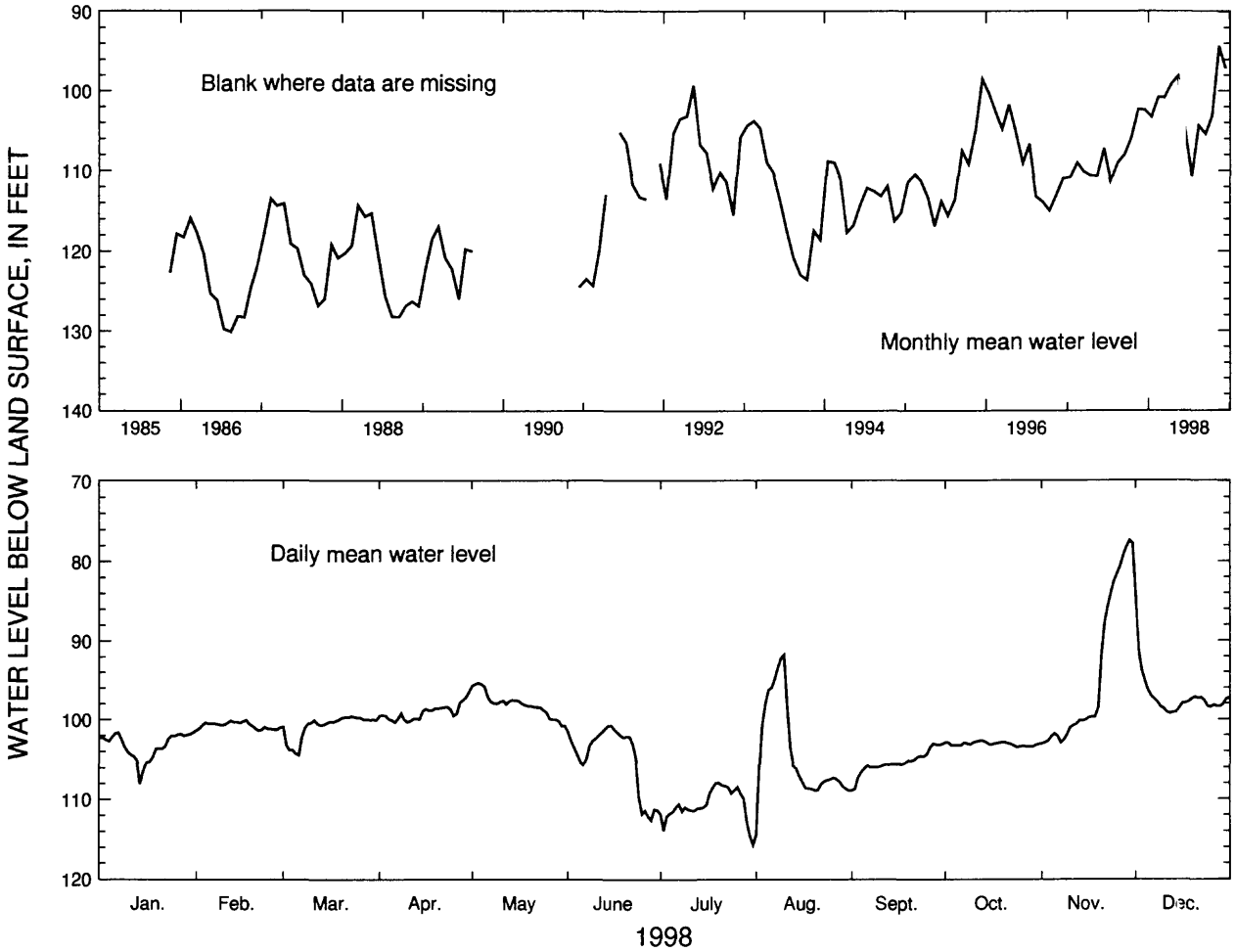


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	77.19	75.33	75.39	75.12	74.58	80.80	------	------	83.19	80.66	74.60	74.09
MEAN	78.33	76.39	76.13	75.96	78.05	84.77	------	------	84.71	82.23	80.32	78.01
LOW	79.33	77.64	77.17	76.58	82.04	89.60	------	------	87.46	83.05	82.59	79.14

SUMMARY FOR 1998 HIGH 74.09 (Dec. 1, 1998) MEAN 80.32 LOW 90.55 (July 2, 1998)

Figure 66. Water level in observation well 37Q016, Chatham County.

IDENTIFICATION NUMBER.—37Q185.
LOCATION.—Lat 32°06'22", long 81°06'37", Hydrologic Unit 03060109.
SITE NAME.—U.S. Geological Survey, Hutchinson Island, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 360 ft, cased to 274 ft, open hole.
DATUM.—Altitude of land-surface datum is 6 ft.
REMARKS.—Well pumped and sampled, July 8 and November 30, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—November 1985 to current year. Continuous record since November 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 77.40 ft below land-surface datum, November 29, 1998; lowest, 131.68 ft below land-surface datum, July 22, 1986.

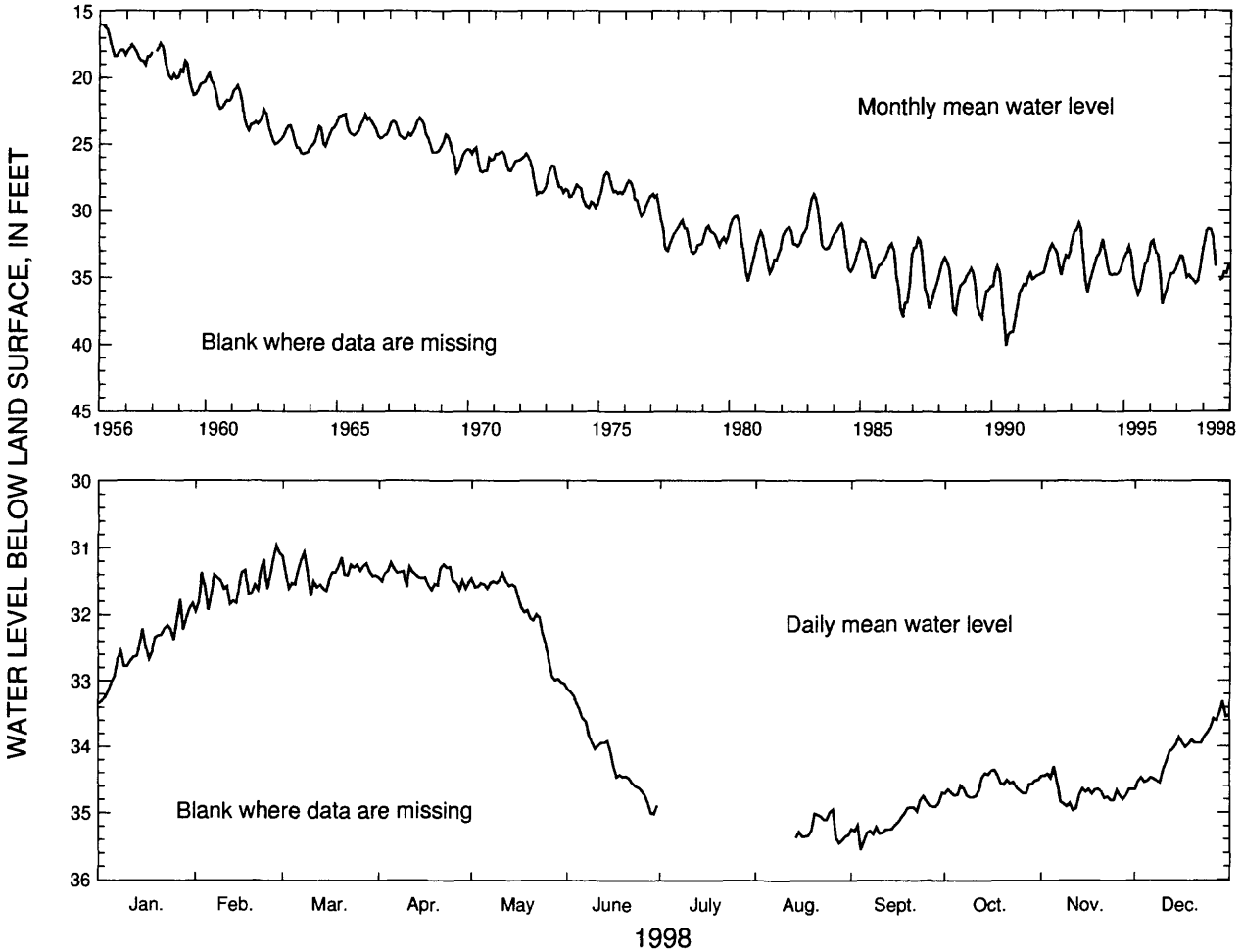


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	101.65	100.07	99.57	96.48	95.37	100.80	107.94	91.73	103.09	102.70	77.40	84.17
MEAN	103.29	100.77	100.84	99.08	98.09	104.77	110.70	104.38	105.40	103.12	94.32	97.12
LOW	108.08	101.40	104.44	100.36	100.86	112.60	115.75	114.48	108.91	103.50	103.07	99.26

SUMMARY FOR 1998 HIGH 77.40 (Nov. 29, 1998) MEAN 101.84 LOW 115.75 (July 31, 1998)

Figure 67. Water level in observation well 37Q185, Chatham County.

IDENTIFICATION NUMBER.—38Q002.
LOCATION.—Lat 32°02'01", long 80°54'11", Hydrologic Unit 03060204.
SITE NAME.—National Park Service, test well 6.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 8 in., depth 348 ft, cased to 110 ft, open hole.
DATUM.—Altitude of land-surface datum is 8.0 ft.
REMARKS.—Well pumped and sampled, July 6 and September 2, 1998, for analysis of chloride concentration. Water-level data for period, July 1 to August 13, 1998, are missing.
PERIOD OF RECORD.—February 1956 to current year. Continuous record since February 1956.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 16.00 ft below land-surface datum, March 5, 1956; lowest, 40.69 ft below land-surface datum, July 16, 1990.

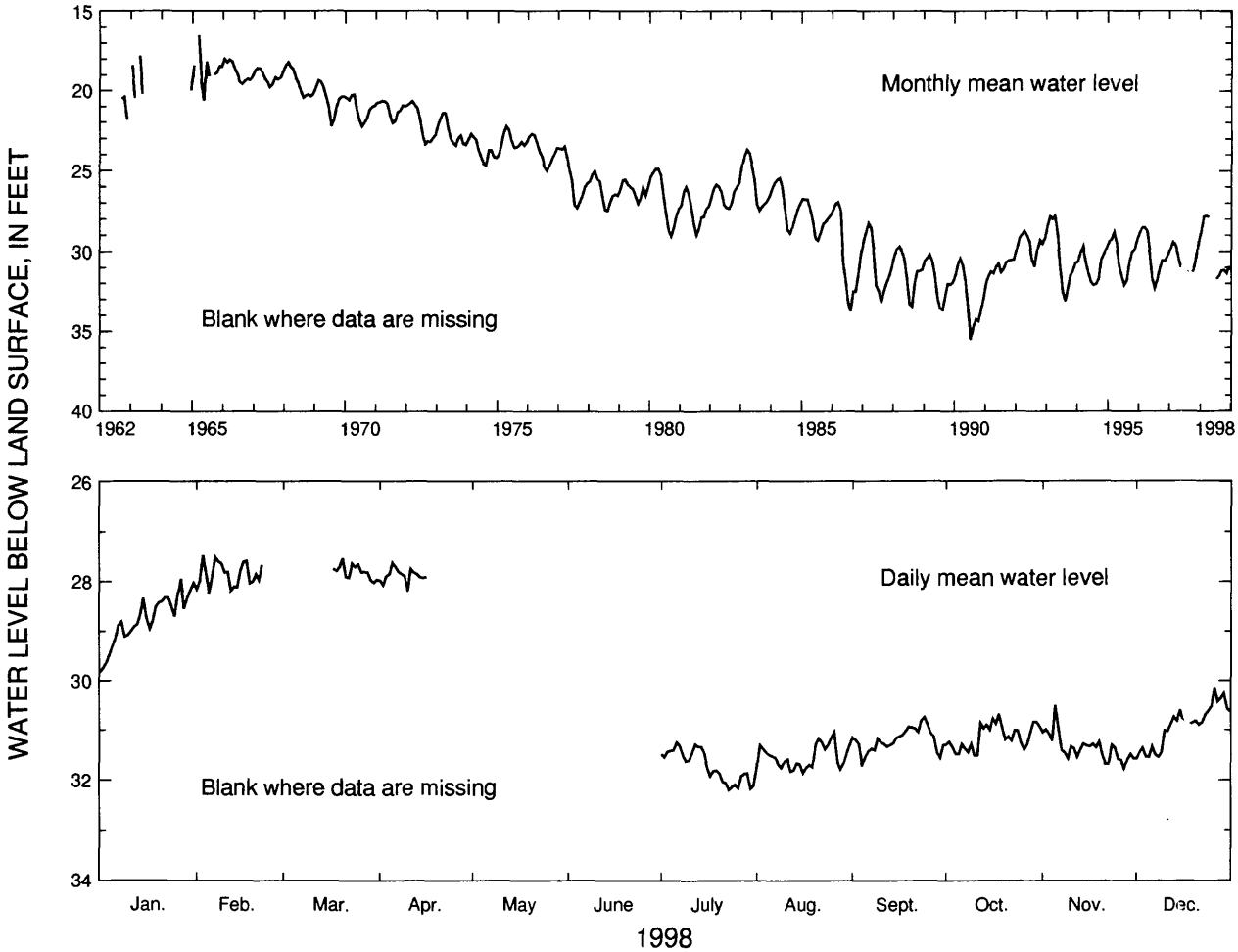


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	31.77	30.96	31.06	31.22	31.37	33.12	------	------	34.70	34.36	34.30	33.31
MEAN	32.51	31.53	31.38	31.43	31.96	34.15	------	------	35.10	34.60	34.69	34.04
LOW	33.34	31.95	31.71	31.62	33.04	35.01	------	------	35.55	34.77	34.97	34.65

SUMMARY FOR 1998 HIGH 30.96 (Feb. 27, 1998) MEAN 33.26 LOW 35.55 (Sept. 4, 199?)

Figure 68. Water level in observation well 38Q002, Chatham County.

IDENTIFICATION NUMBER.—39Q003.
LOCATION.—Lat 32°01'22", long 80°51'01", Hydrologic Unit 03060204.
SITE NAME.—U.S. Geological Survey, test well 7.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 10 in., depth 600 ft, cased to 129 ft, open hole.
DATUM.—Altitude of land-surface datum is 7.0 ft.
REMARKS.—Water-level data for periods, February 23 to March 16 and April 17 to June 30, 1998, are missing.
PERIOD OF RECORD.—May 1962 to current year. Continuous record since December 1964.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 17.80 ft below land-surface datum, April 11, 1963; lowest, 36.07 ft below land-surface datum, July 11-12, 1990.



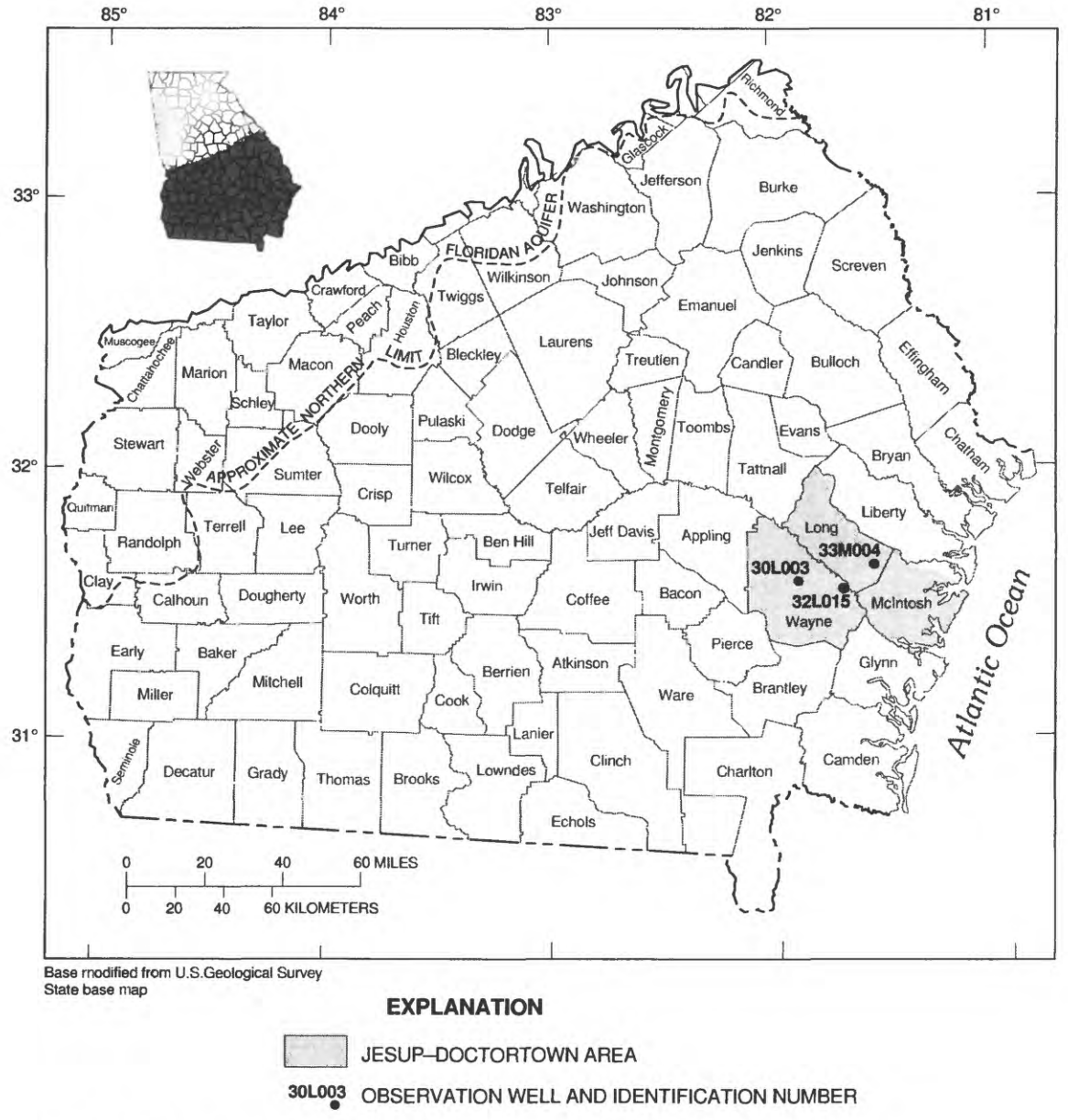
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	27.94	------	------	------	------	------	31.25	31.04	30.74	30.68	30.50	30.14
MEAN	28.76	------	------	------	------	------	31.72	31.54	31.20	31.15	31.36	30.93
LOW	29.82	------	------	------	------	------	32.20	31.86	31.72	31.52	31.78	31.58

SUMMARY FOR 1998 HIGH 27.47 (Feb. 3, 1998) MEAN 30.33 LOW 32.20 (July 23, 1998)

Figure 69. Water level in observation well 39Q003, Chatham County.

Jesup-Doctortown area

The water level in the Upper Floridan aquifer in the Jesup-Doctortown area was monitored in three wells in 1998 (fig. 70) and data from these wells are summarized in figures 71-73. In this area, water levels in wells tapping the aquifer are affected mainly by industrial pumping at Doctortown, near Jesup.



Base modified from U.S.Geological Survey
State base map

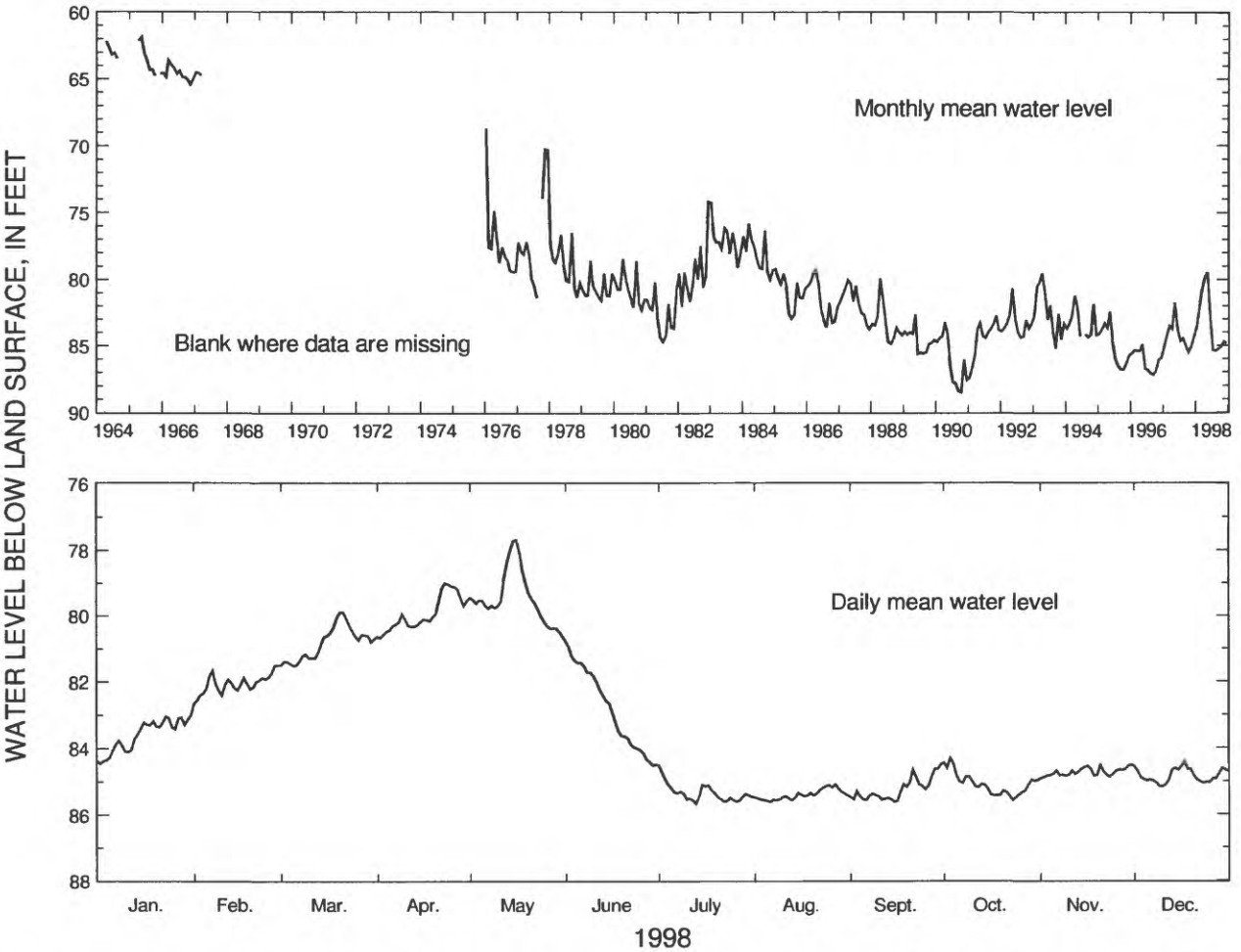
EXPLANATION

JESUP–DOCTORTOWN AREA

30L003 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 70. Location of observation wells completed in Upper Floridan aquifer, Jesup–Doctortown area.

IDENTIFICATION NUMBER.—30L003.
LOCATION.—Lat 31°37'01", long 81°54'34", Hydrologic Unit 03070106.
SITE NAME.—City of Jesup Housing Authority.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 4 in., depth 584 ft, cased to 472 ft, open hole.
DATUM.—Altitude of land-surface datum is 107 ft.
REMARKS.—None.
PERIOD OF RECORD.—January 1964 to current year. Continuous record January 1964 to March 1967, and since January 1976.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 59.98 ft below land-surface datum, April 19, 1964; lowest, 88.91 ft below land-surface datum, October 7, 1990.

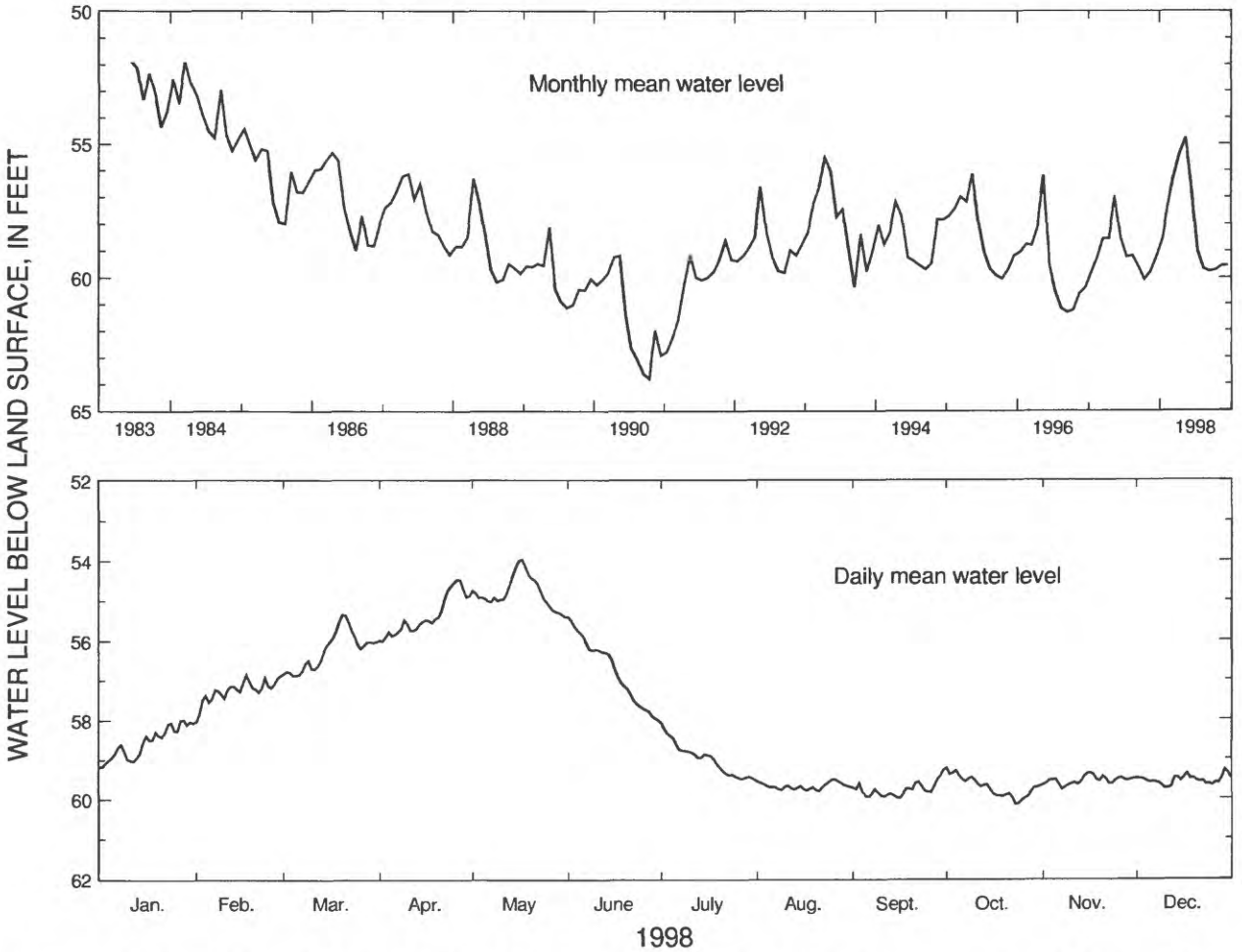


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	83.01	81.50	79.88	79.00	77.69	80.77	84.51	85.10	84.48	84.30	84.50	84.41
MEAN	83.61	82.06	80.83	79.94	79.45	82.81	85.35	85.41	85.25	85.10	84.72	84.85
LOW	84.45	82.65	81.51	80.67	80.63	84.51	85.67	85.62	85.63	85.58	84.91	85.17

SUMMARY FOR 1998 HIGH 77.69 (May 16, 1998) MEAN 83.29 LOW 85.67 (July 13, 1998)

Figure 71. Water level in observation well 30L003, Wayne County.

IDENTIFICATION NUMBER.—32L015.
LOCATION.—Lat 31°32′52″, long 81°43′36″, Hydrologic Unit 03070106.
SITE NAME.—Georgia Geologic Survey, Gardi, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 750 ft, cased to 545 ft, open hole.
DATUM.—Altitude of land-surface datum is 74 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1983 to current year. Continuous record since June 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 49.12 ft below land-surface datum, March 19, 1984; lowest, 64.05 ft below land-surface datum, October 7-8, 1990.

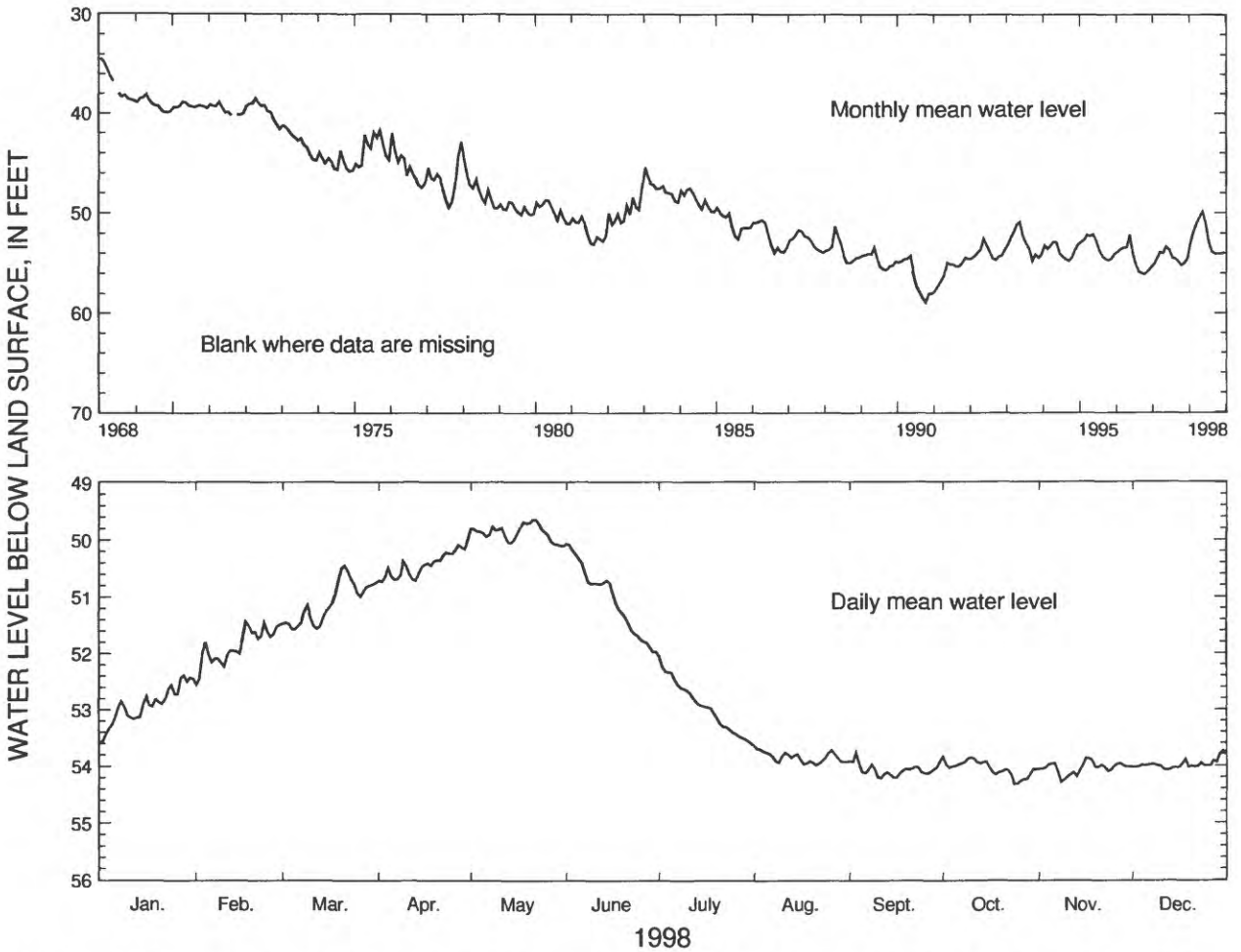


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	57.98	56.85	55.34	54.46	53.96	55.40	58.07	59.51	59.28	59.23	59.36	59.28
MEAN	58.56	57.25	56.23	55.36	54.78	56.75	58.99	59.68	59.77	59.72	59.56	59.55
LOW	59.18	58.04	56.87	56.00	55.40	58.00	59.51	59.80	59.98	60.14	59.77	59.75

SUMMARY FOR 1998 HIGH 53.96 (May 17, 1998) MEAN 58.03 LOW 60.14 (Oct. 23, 1998)

Figure 72. Water level in observation well 32L015, Wayne County.

IDENTIFICATION NUMBER.—33M004.
LOCATION.—Lat 31°38′54″, long 81°36′04″, Hydrologic Unit 03070106.
SITE NAME.—U.S. Geological Survey, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 and 3 in., depth 872 ft, cased to 538 ft, open hole.
DATUM.—Altitude of land-surface datum is 61.2 ft.
REMARKS.—None.
PERIOD OF RECORD.—January 1968 to current year. Continuous record since January 1968.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 34.04 ft below land-surface datum, January 14, 1968; lowest, 59.00 ft below land-surface datum, October 8, 1990.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	52.39	51.44	50.45	49.99	49.65	50.07	52.05	53.65	53.77	53.84	53.87	53.74
MEAN	52.92	51.86	51.11	50.43	49.87	51.05	52.95	53.85	54.07	54.06	54.05	53.98
LOW	53.59	52.55	51.57	50.73	50.11	51.97	53.61	53.99	54.22	54.32	54.29	54.08

SUMMARY FOR 1998 HIGH 49.65 (May 21-22, 1998) MEAN 52.52 LOW 54.32 (Oct. 24-25, 1998)

Figure 73. Water level in observation well 33M004, Long County.

Brunswick area

The water level in the Upper Floridan aquifer in the Brunswick area was monitored in 13 wells in 1998 and data from 11 of these wells (fig. 74) are summarized in figures 75-85. In this area, water levels in wells tapping this aquifer are mainly affected by industrial pumping. In the Brunswick area, the Upper Floridan aquifer includes two freshwater-bearing zones, the upper water-bearing zone and the lower water-bearing zone.

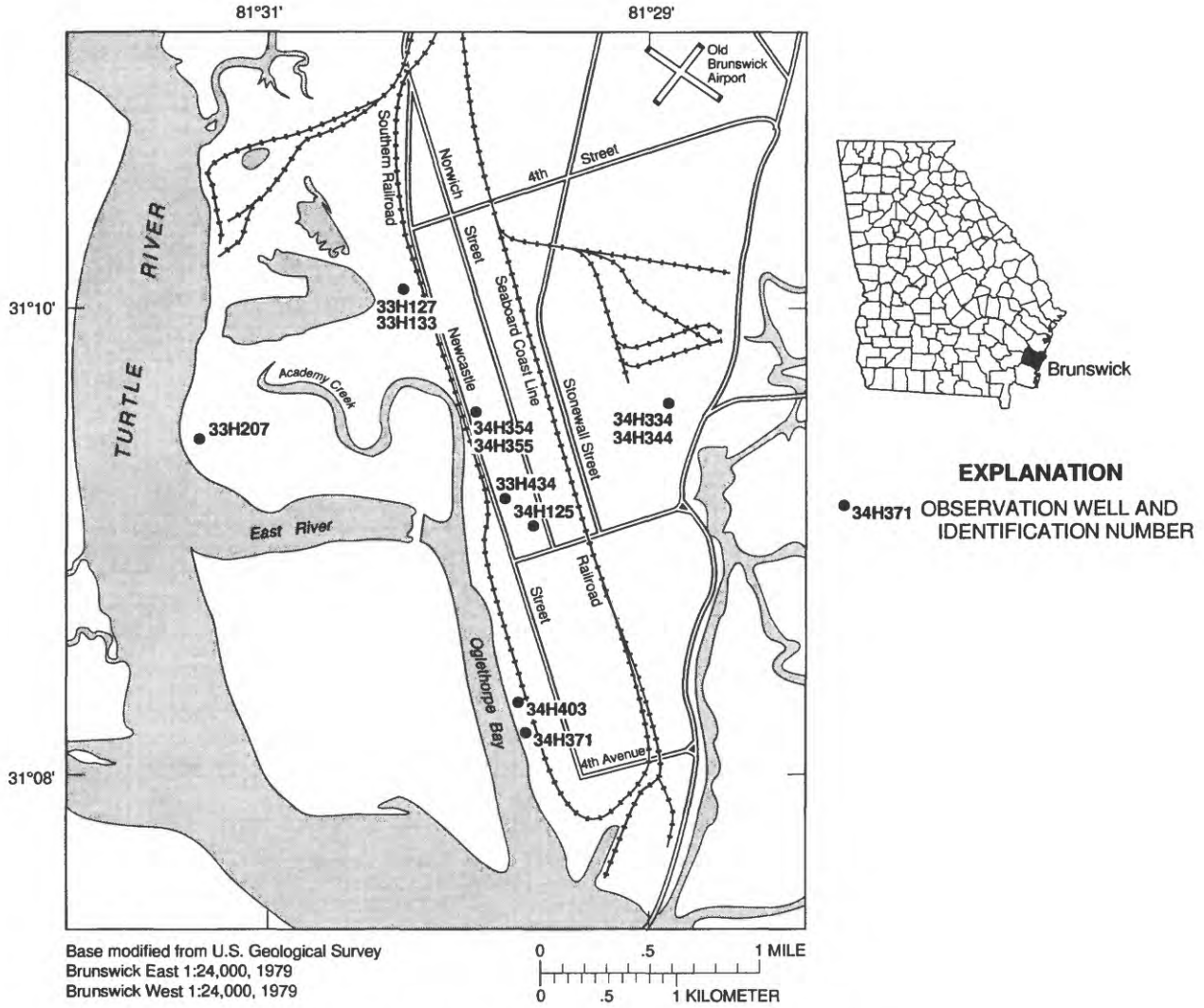
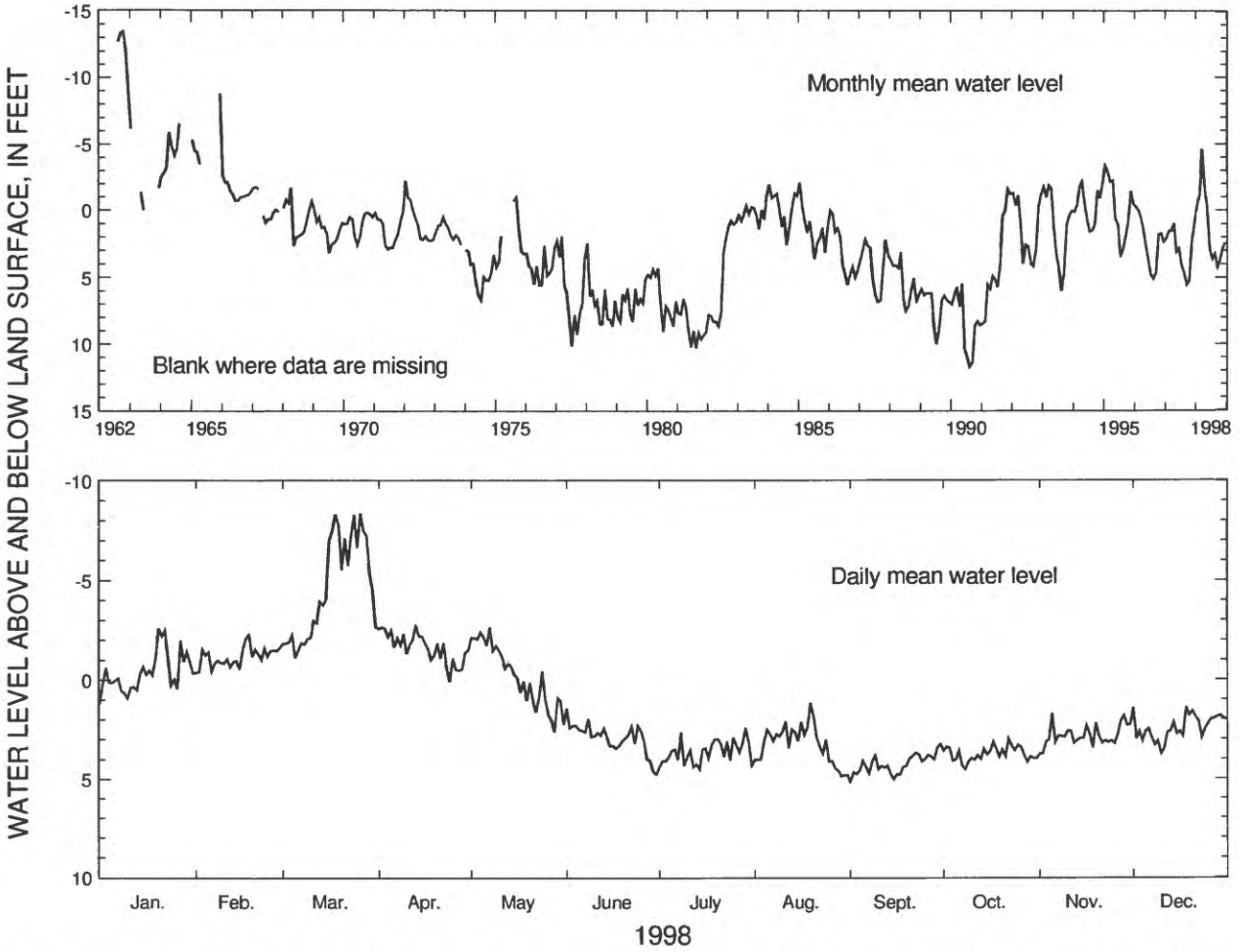


Figure 74. Location of observation wells completed in Upper Floridan aquifer, Brunswick area.

IDENTIFICATION NUMBER.—33H127.
LOCATION.—Lat 31°10'06", long 81°30'16", Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; lower water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 1,002 ft, cased to 823 ft, open hole.
DATUM.—Altitude of land-surface datum is 6.2 ft.
REMARKS.—Well pumped and sampled, June 2 and December 22, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—August 1962 to current year. Continuous record since August 1962.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 14.00 ft above land-surface datum, October 9, 1962; lowest, 13.22 ft below land-surface datum, July 9, 1990.



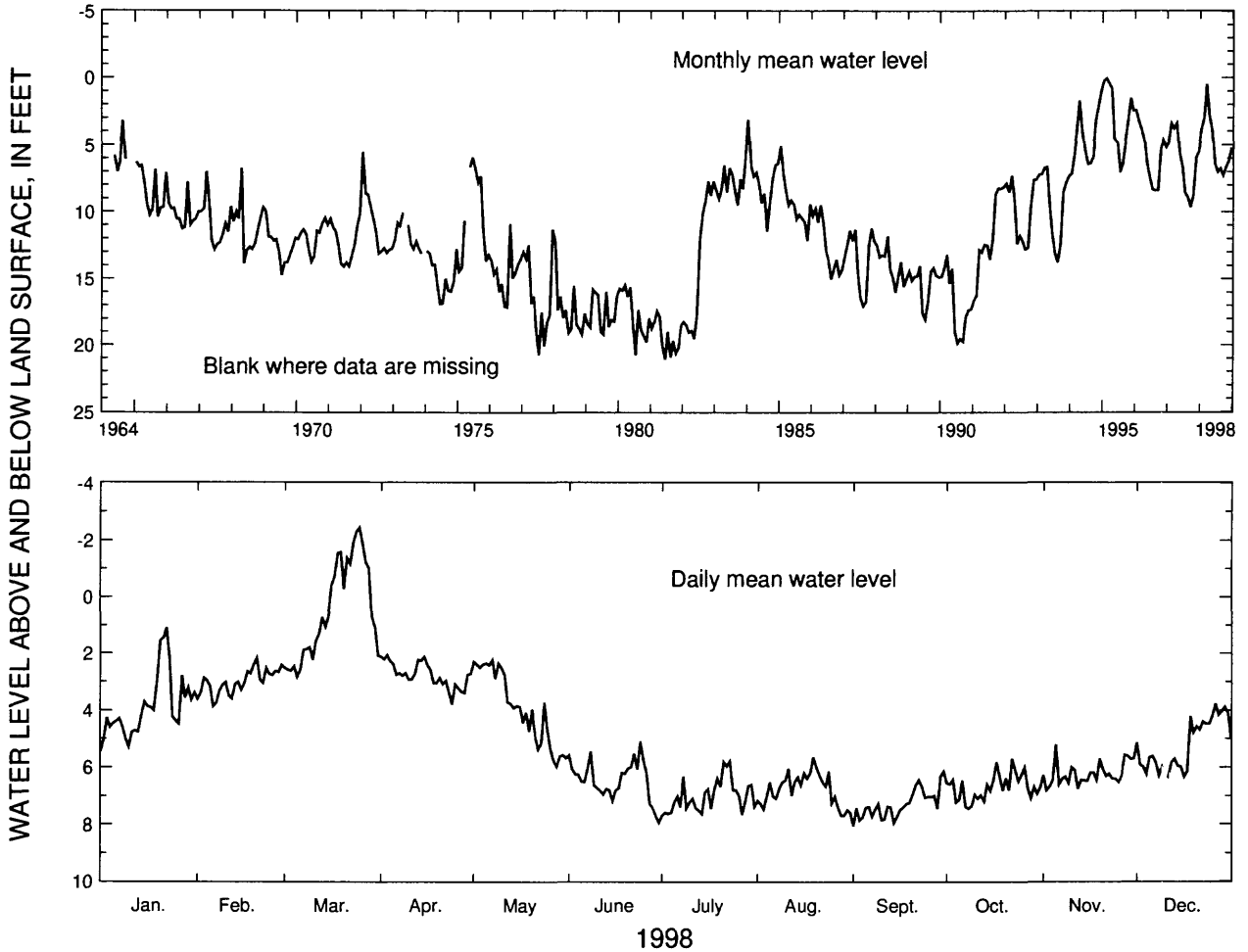
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-2.60	-2.29	-8.36	-2.78	-2.64	1.44	2.42	1.16	3.26	2.99	1.72	1.40
MEAN	-0.39	-1.18	-4.60	-1.64	-0.22	2.93	3.64	3.25	4.26	3.75	2.84	2.44
LOW	1.20	-0.37	-1.12	0.08	2.63	4.78	4.51	4.87	5.14	4.52	3.75	3.75

SUMMARY FOR 1998 HIGH -8.36 (Mar. 26, 1998) MEAN 1.27 LOW 5.14 (Sept. 1, 1998)

[Negative value indicates water level above land surface]

Figure 75. Water level in observation well 33H127, Glynn County.

IDENTIFICATION NUMBER.—33H133.
LOCATION.—Lat 31°10′08″, long 81°30′16″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 6.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; upper water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 790 ft, cased to 520 ft, open hole.
DATUM.—Altitude of land-surface datum is 6.7 ft.
REMARKS.—Well pumped and sampled, June 2 and December 22, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—May 1964 to current year. Continuous record since May 1964.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 9.07 ft above land-surface datum, December 26, 1965; lowest, 21.87 ft below land-surface datum, July 22, 1977.



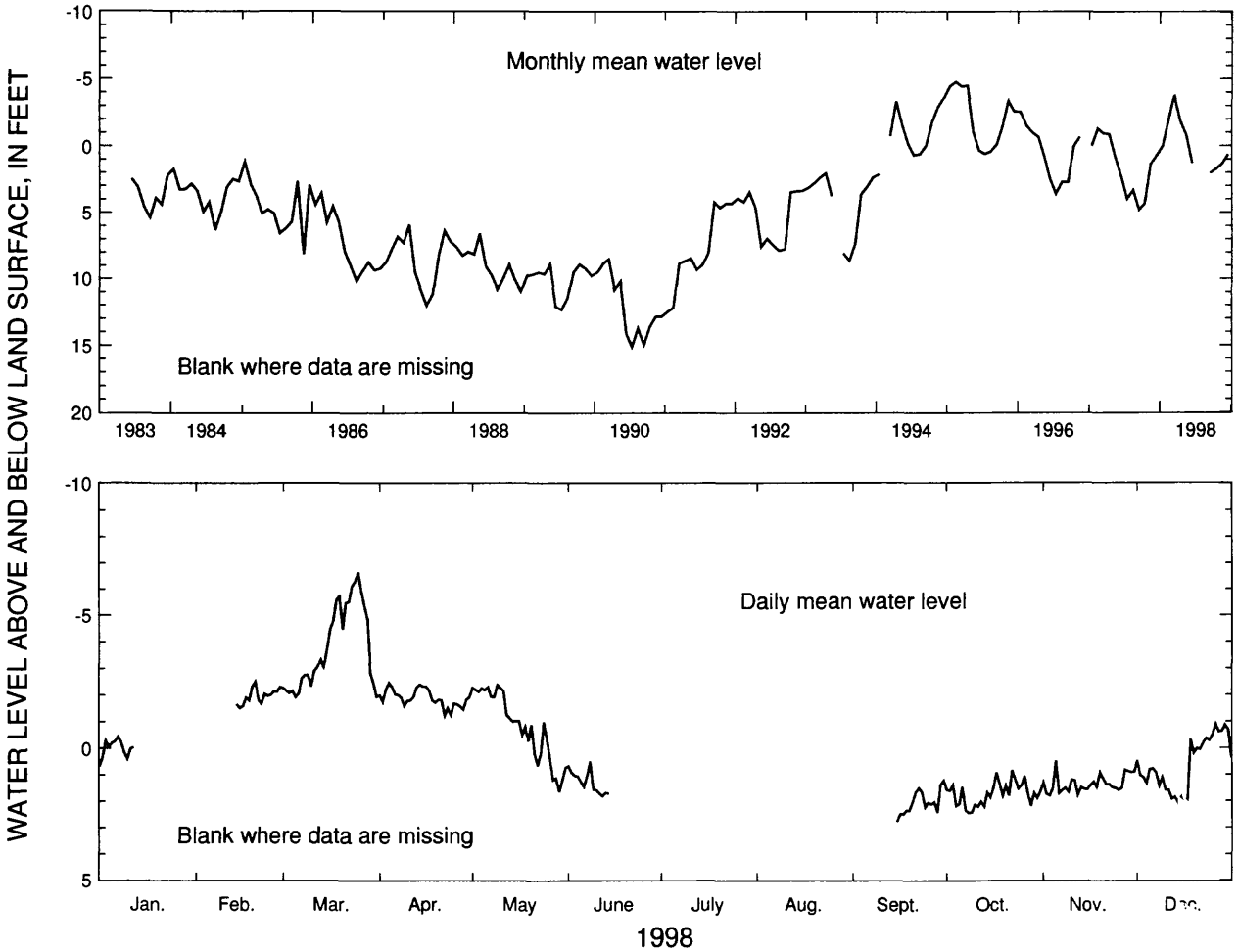
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	1.09	2.17	-2.44	2.06	2.23	5.09	5.79	5.64	6.13	5.70	5.21	3.77
MEAN	3.88	3.01	0.48	2.76	3.91	6.44	7.01	6.77	7.28	6.69	6.23	5.23
LOW	5.45	3.86	2.84	3.79	5.97	7.94	7.69	7.69	8.06	7.44	6.81	6.48

SUMMARY FOR 1998 HIGH -2.44 (Mar. 25, 1998) MEAN 4.98 LOW 8.06 (Sept. 1, 1998)

[Negative value indicates water level above land surface]

Figure 76. Water level in observation well 33H133, Glynn County.

IDENTIFICATION NUMBER.—33H207
LOCATION.—Lat 31°09'25", long 81°31'22", Hydrologic Unit 03070203.
SITE NAME.—Georgia-Pacific south, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; upper water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 720 ft, cased to 620 ft, open hole.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Well pumped and sampled, June 4, 1998, for analysis of chloride concentration. Water-level data for periods, January 13 to February 13 and June 15 to September 14, 1998, are missing.
PERIOD OF RECORD.—June 1983 to current year. Continuous record since June 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 9.86 ft above land-surface datum, November 9, 1995; lowest, 16.57 ft below land-surface datum, September 14, 1990.



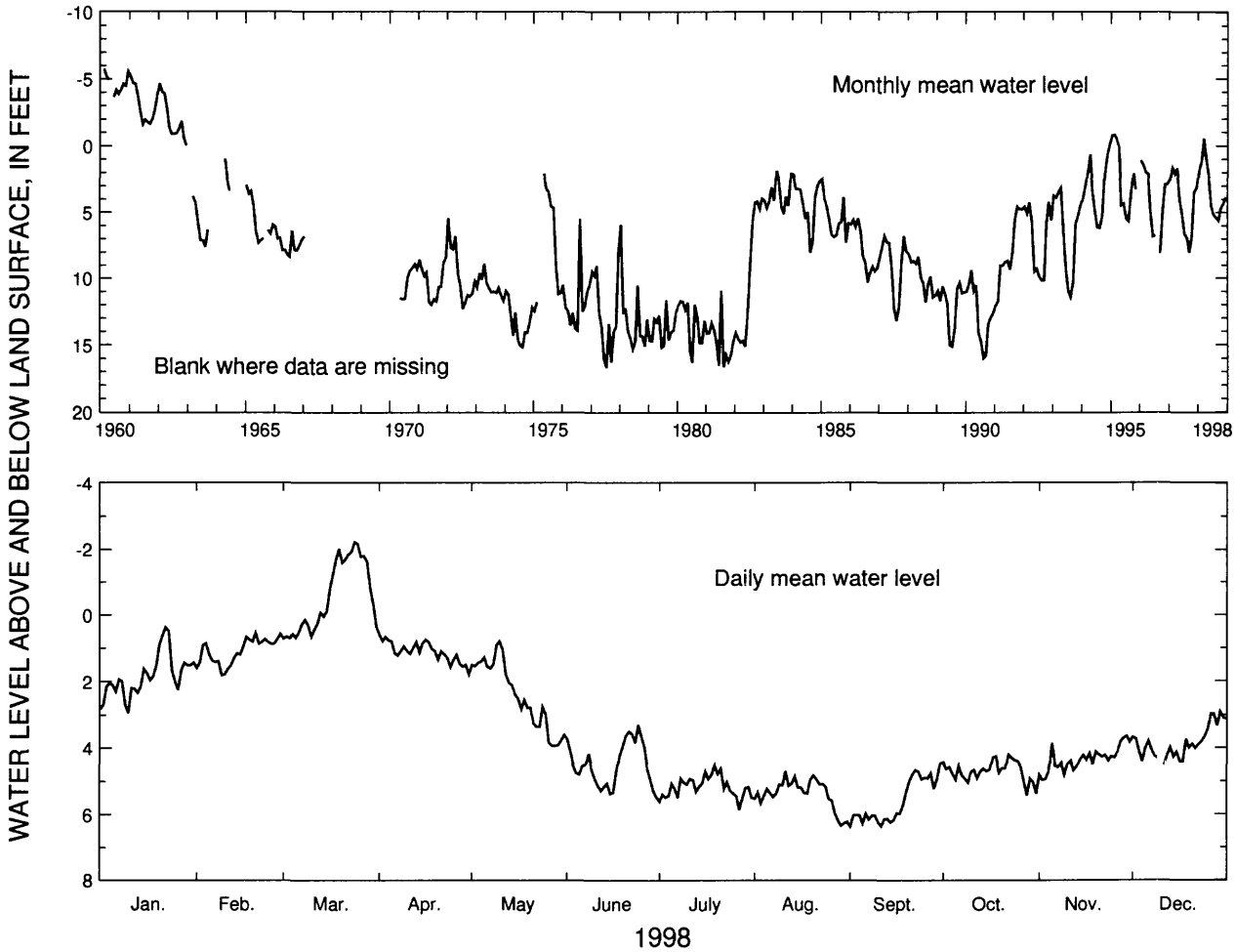
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	------	-6.65	-2.46	-2.38	------	------	------	------	0.85	0.48	-0.90
MEAN	------	------	-3.79	-1.88	-0.83	------	------	------	------	1.74	1.36	0.63
LOW	------	------	-1.92	-1.22	1.64	------	------	------	------	2.45	1.80	2.44

SUMMARY FOR 1998 HIGH -6.65 (Mar. 25, 1998) MEAN -0.26 LOW 2.78 (Sept. 15, 1998)

[Negative value indicates water level above land surface]

Figure 77. Water level in observation well 33H207, Glynn County.

IDENTIFICATION NUMBER.—34H125.
LOCATION.—Lat 31°09′06″, long 81°29′31″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 8 in., depth 604 ft, cased to 535 ft, open hole.
DATUM.—Altitude of land-surface datum is 11.57 ft.
REMARKS.—Well pumped and sampled, June 3, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—February 1960 to current year. Continuous record since May 1970.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 9.50 ft above land-surface datum, December 26, 1960; lowest, 18.68 ft below land-surface datum, June 25, 1980.



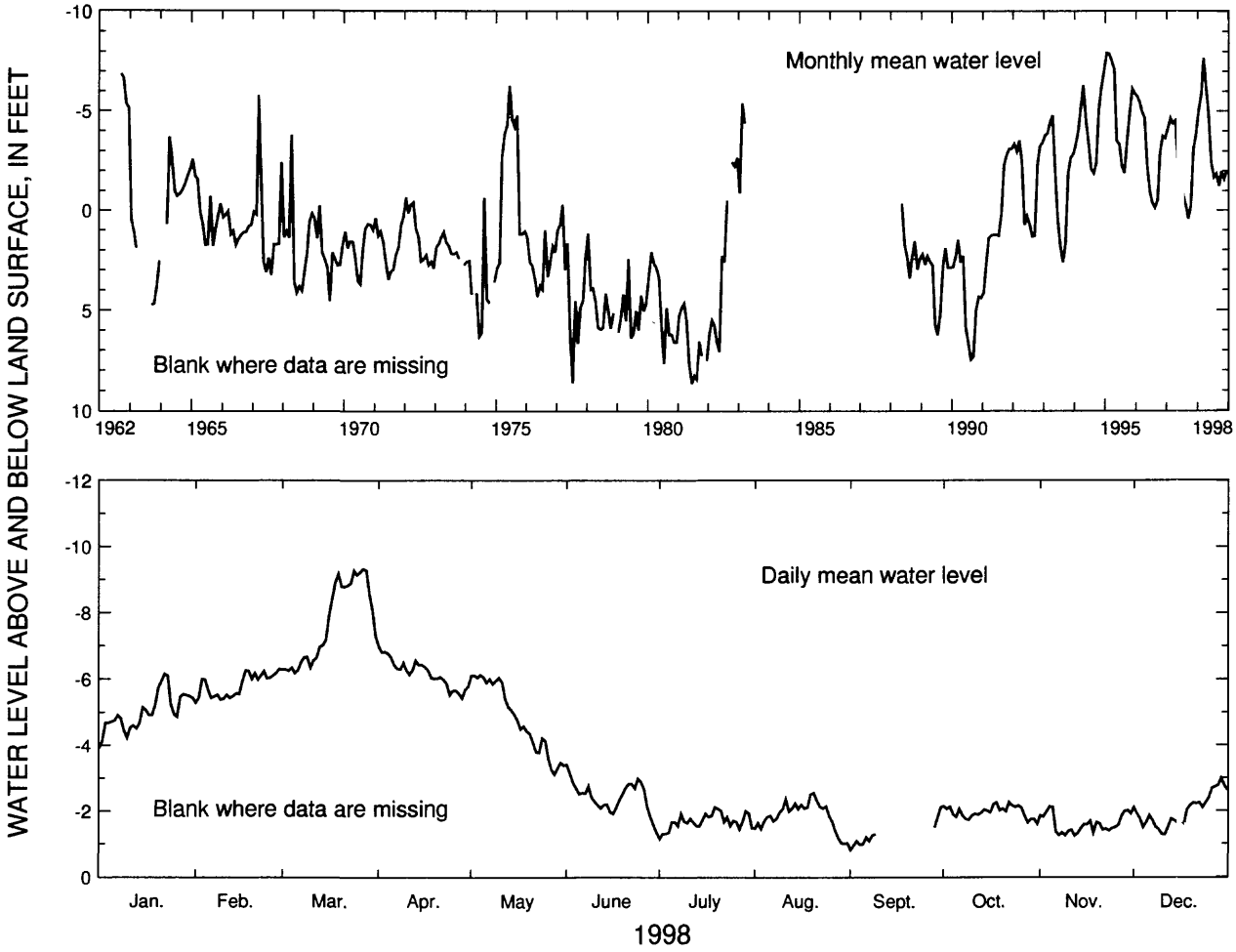
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.37	0.54	-2.22	0.60	0.79	3.30	4.51	4.69	4.46	4.21	3.65	2.92
MEAN	1.84	1.09	-0.56	1.10	2.42	4.49	5.16	5.37	5.62	4.70	4.34	3.86
LOW	2.94	1.81	0.71	1.79	3.93	5.47	5.86	6.34	6.37	5.43	4.96	4.53

SUMMARY FOR 1998 HIGH -2.22 (Mar. 24, 1998) MEAN 3.30 LOW 6.37 (Sept. 1, 1998)

[Negative value indicates water level above land surface]

Figure 78. Water level in observation well 34H125, Glynn County.

IDENTIFICATION NUMBER.—34H334.
LOCATION.—Lat 31°09'38", long 81°28'53", Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 4.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; lower water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 980 ft, cased to 800 ft, open hole.
DATUM.—Altitude of land-surface datum is 8 ft.
REMARKS.—Well pumped and sampled, June 3, 1998, for analysis of chloride concentration. Water-level data for period, September 10-27, 1998, are missing.
PERIOD OF RECORD.—September 1962 to current year. Continuous record since May 1988.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 9.32 ft above land-surface datum, March 27, 1998; lowest, 8.65 ft below land-surface datum, June 18, 1981.



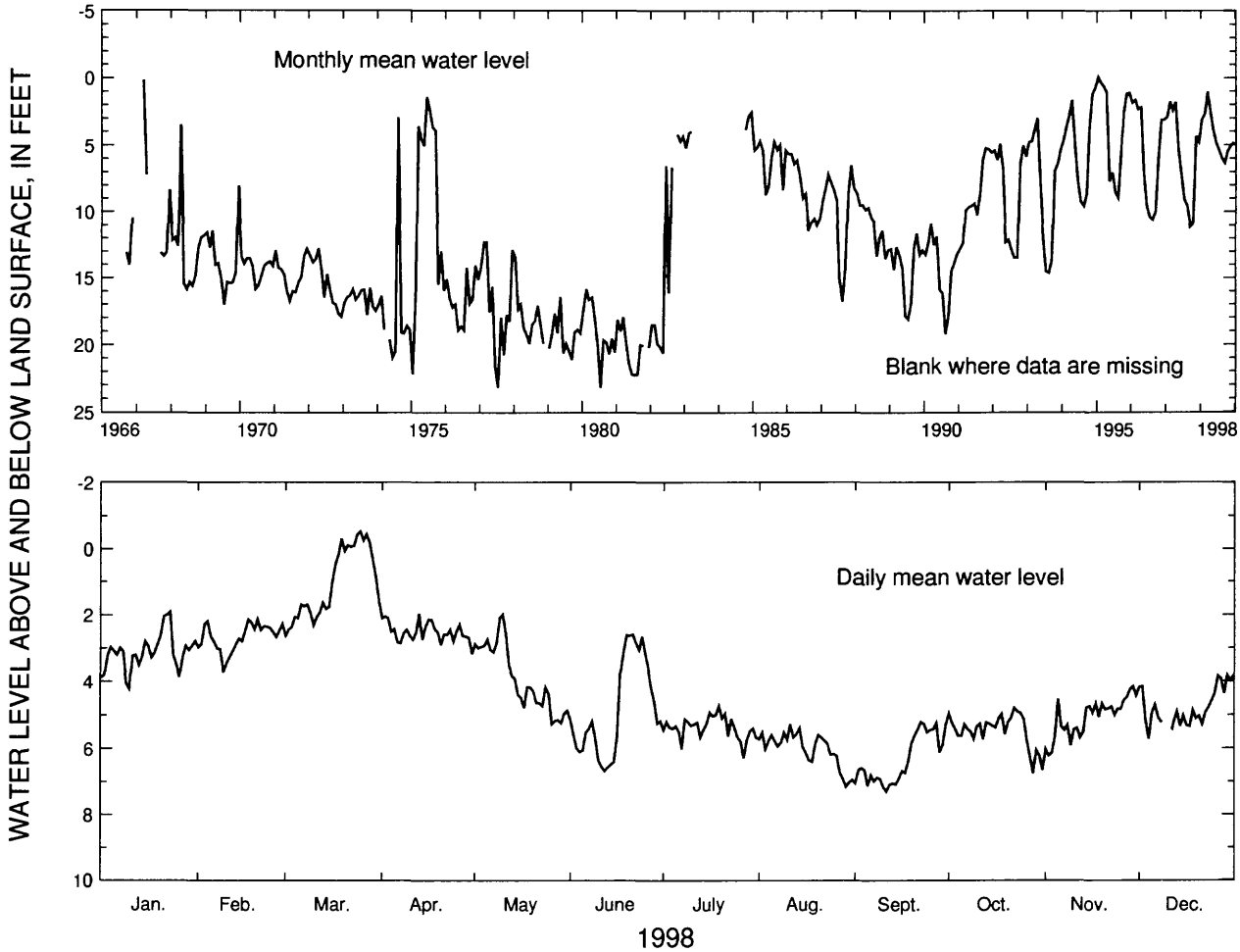
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-6.15	-6.31	-9.32	-6.98	-6.12	-3.41	-2.12	-2.55	------	-2.26	-2.13	-2.98
MEAN	-5.01	-5.82	-7.68	-6.19	-4.82	-2.44	-1.68	-1.85	------	-1.96	-1.59	-2.00
LOW	-3.91	-5.29	-6.18	-5.42	-3.11	-1.35	-1.15	-1.00	------	-1.59	-1.23	-1.27

SUMMARY FOR 1998 HIGH -9.32 (Mar. 27, 1998) MEAN -3.63 LOW -0.81 (Sept. 1, 1998)

[Negative value indicates water level above land surface]

Figure 79. Water level in observation well 34H334, Glynn County.

IDENTIFICATION NUMBER.—34H344.
LOCATION.—Lat 31°09'38", long 81°28'53", Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 7.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; upper water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 770 ft, cased to 505 ft, open hole.
DATUM.—Altitude of land-surface datum is 8 ft.
REMARKS.—Well pumped and sampled, June 3, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—December 1964 to current year. Continuous record since October 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 3.30 ft above land-surface datum, March 16, 1967; lowest, 23.20 ft below land-surface datum, July 22, 1980.



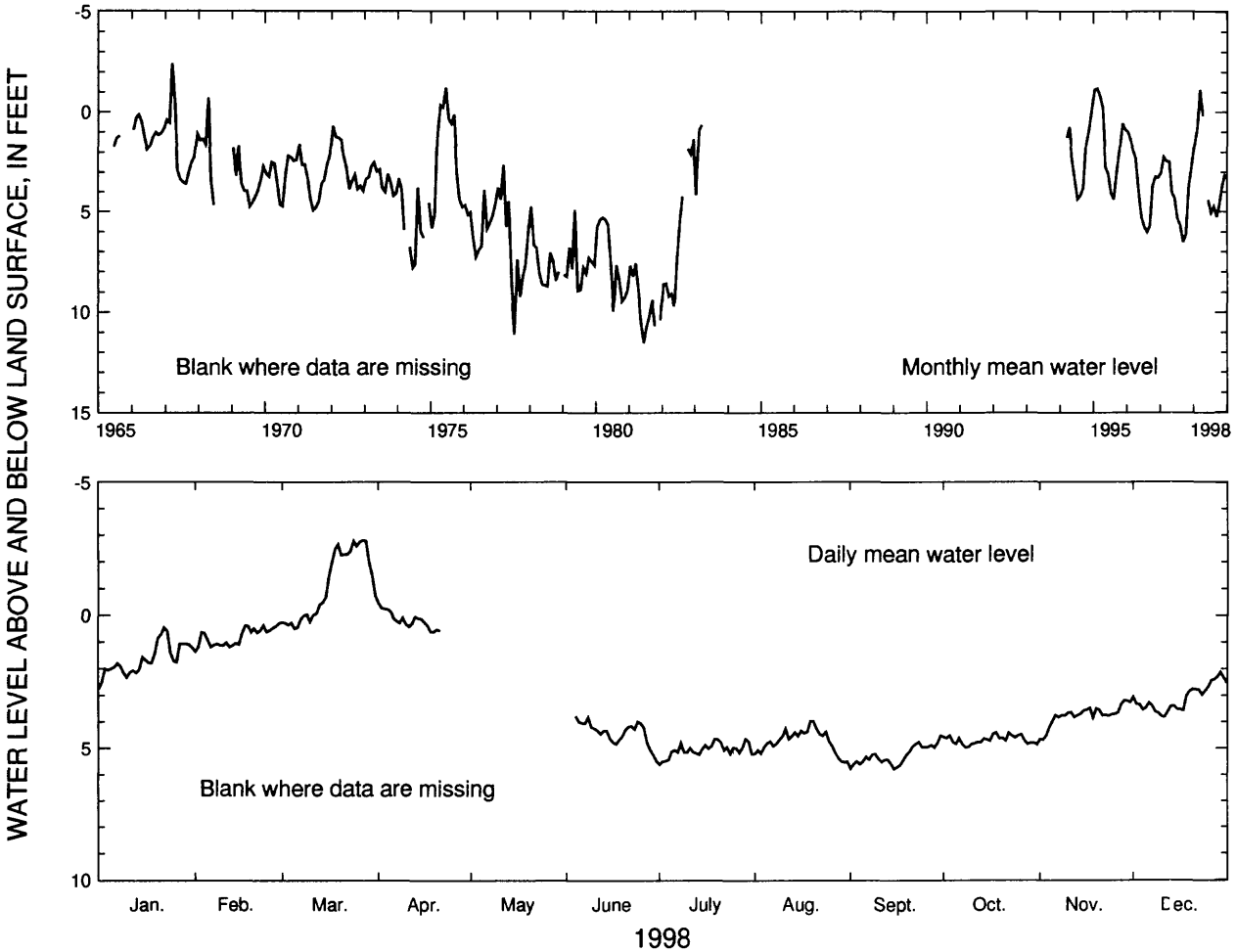
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	1.90	2.13	-0.53	1.96	1.98	2.59	4.73	5.28	5.21	4.80	4.15	3.82
MEAN	3.12	2.66	1.04	2.51	3.90	4.82	5.38	6.01	6.35	5.48	5.08	4.82
LOW	4.21	3.72	2.62	3.17	5.27	6.68	6.29	7.16	7.30	6.76	6.23	5.72

SUMMARY FOR 1998 HIGH -0.53 (Mar. 25, 1998) MEAN 4.27 LOW 7.30 (Sept. 11, 1998)

[Negative value indicates water level above land surface]

Figure 80. Water level in observation well 34H344, Glynn County.

IDENTIFICATION NUMBER.—34H354.
LOCATION.—Lat 31°09′24″, long 81°29′52″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 8.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; lower water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 1,003 ft, cased to 804 ft, open hole.
DATUM.—Altitude of land-surface datum is 13.76 ft.
REMARKS.—Well pumped and sampled, June 3, 1998, for analysis of chloride concentration. Water-level data for period, April 22 to June 3, 1998, are missing.
PERIOD OF RECORD.—June 1965 to current year. Continuous record since March 1994.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.00 ft above land-surface datum, March 20, 1967; lowest, 11.50 ft below land-surface datum, June 19, 1981.



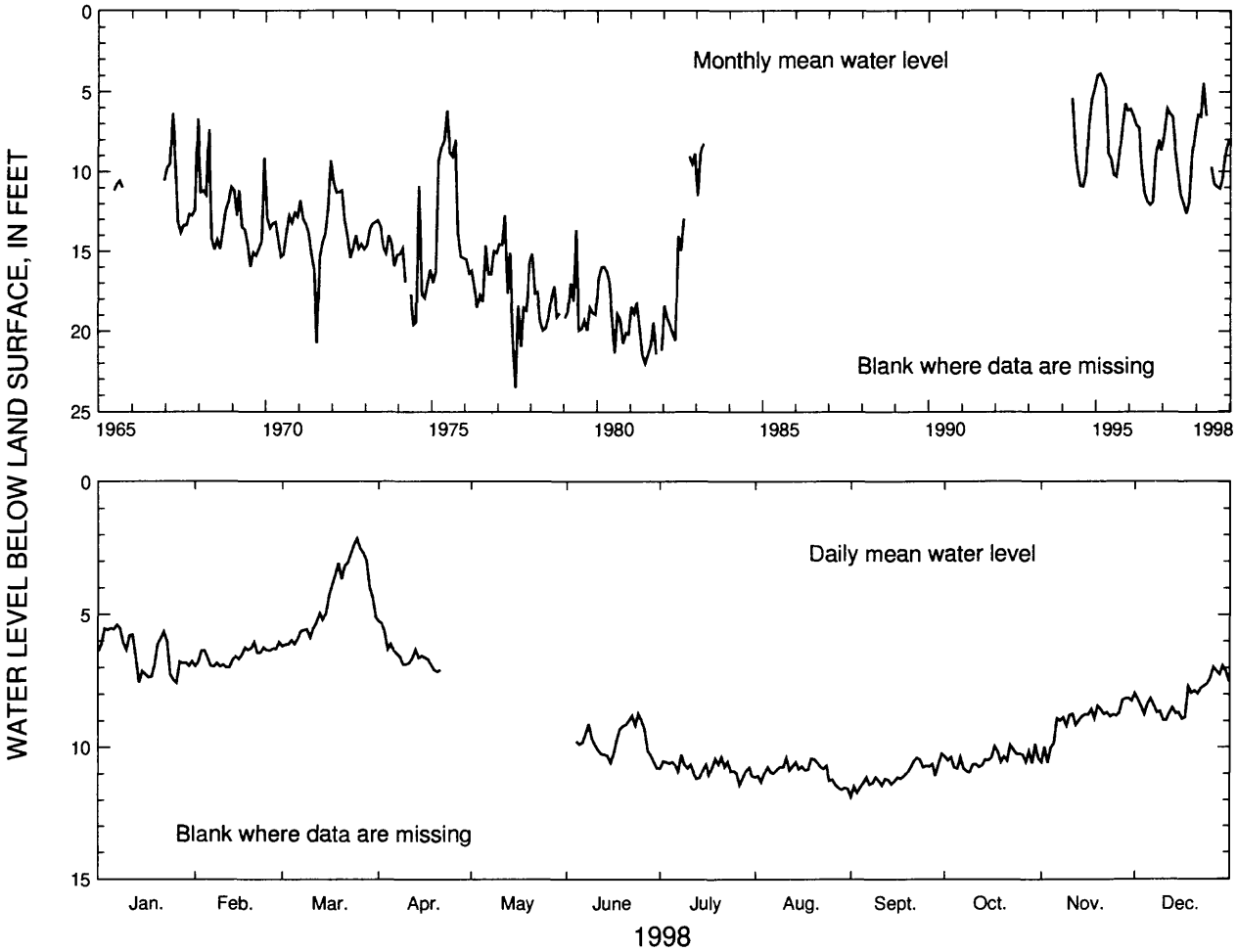
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.46	0.30	-2.81	------	------	3.79	4.65	3.97	4.53	4.42	3.19	2.13
MEAN	1.65	0.80	-1.12	------	------	4.41	5.06	4.74	5.27	4.69	3.75	3.10
LOW	2.75	1.36	0.49	------	------	5.48	5.62	5.53	5.78	4.97	4.68	3.82

SUMMARY FOR 1998 HIGH -2.81 (Mar. 27, 1998) MEAN 3.04 LOW 5.78 (Sept. 15, 1998)

[Negative value indicates water level above land surface]

Figure 81. Water level in observation well 34H354, Glynn County.

IDENTIFICATION NUMBER.—34H355.
LOCATION.—Lat 31°09′24″, long 81°29′52″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 9.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; upper water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 785 ft, cased to 523 ft, open hole.
DATUM.—Altitude of land-surface datum is 14 ft.
REMARKS.—Well pumped and sampled, June 3, 1998, for analysis of chloride concentration. Water-level data for period, April 22 to June 3, 1998, are missing.
PERIOD OF RECORD.—June 1965 to current year. Continuous record since April 1994.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.97 ft below land-surface datum, December 27, 1967; lowest, 26.54 ft below land-surface datum, July 19, 1971.

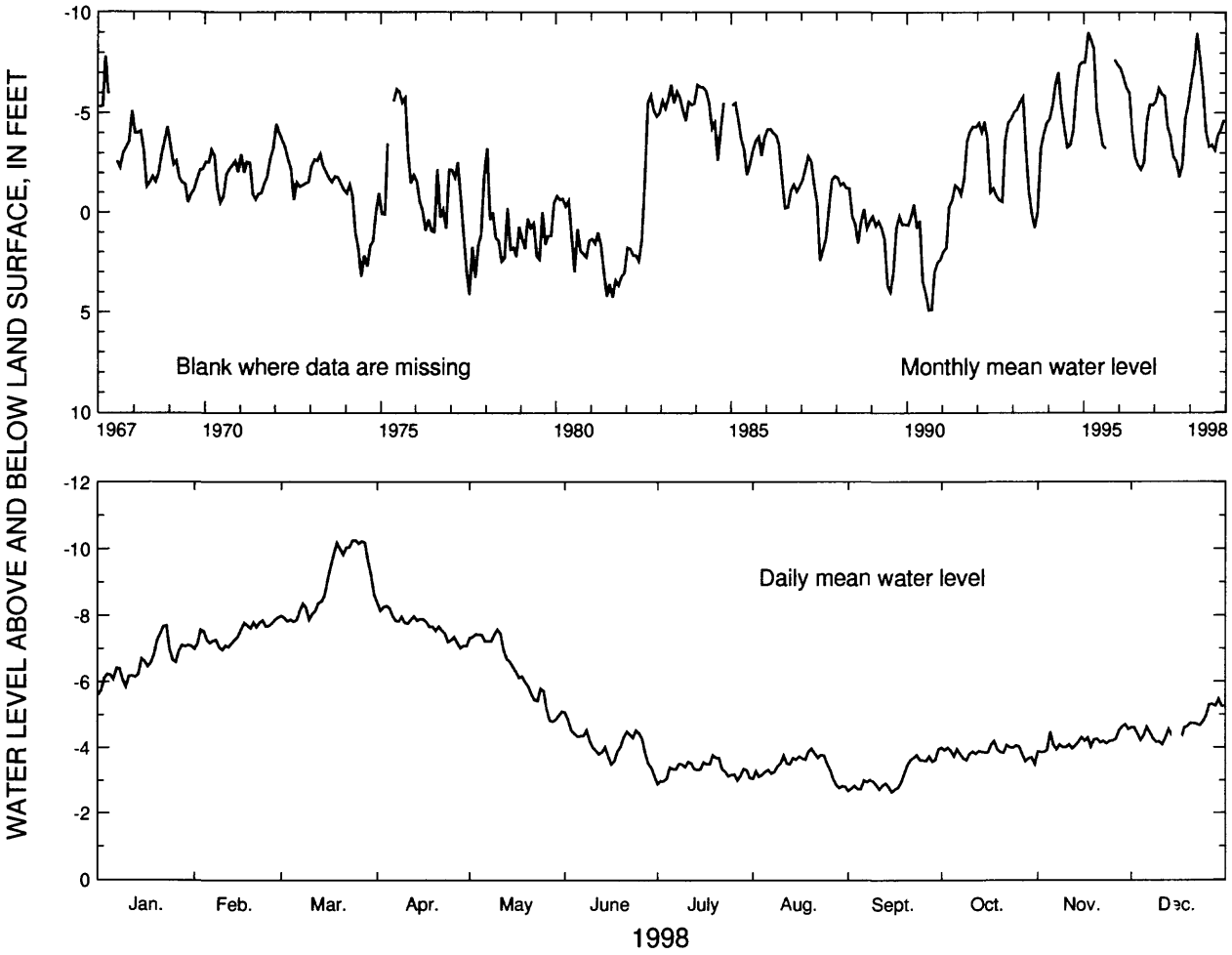


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	5.40	6.04	2.14	------	------	8.73	10.28	10.41	10.24	9.88	8.15	6.92
MEAN	6.45	6.55	4.47	------	------	9.72	10.79	10.95	11.07	10.44	8.96	8.10
LOW	7.58	6.99	6.19	------	------	10.79	11.43	11.62	11.89	10.94	10.58	8.98

SUMMARY FOR 1998 HIGH 2.14 (Mar. 25, 1998) MEAN 8.60 LOW 11.89 (Sept. 1, 1998)

Figure 82. Water level in observation well 34H355, Glynn County.

IDENTIFICATION NUMBER.—34H371.
LOCATION.—Lat 31°08′18″, long 81°30′16″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 11.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; upper water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 3 and 2 in., depth 719 ft, cased to 512 ft, open hole.
DATUM.—Altitude of land-surface datum is 9.8 ft.
REMARKS.—Well pumped and sampled, June 2, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—January 1967 to current year. Continuous record since January 1967.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 10.26 ft above land-surface datum, March 25, 1998; lowest, 5.64 ft below land-surface datum, September 14, 1990.



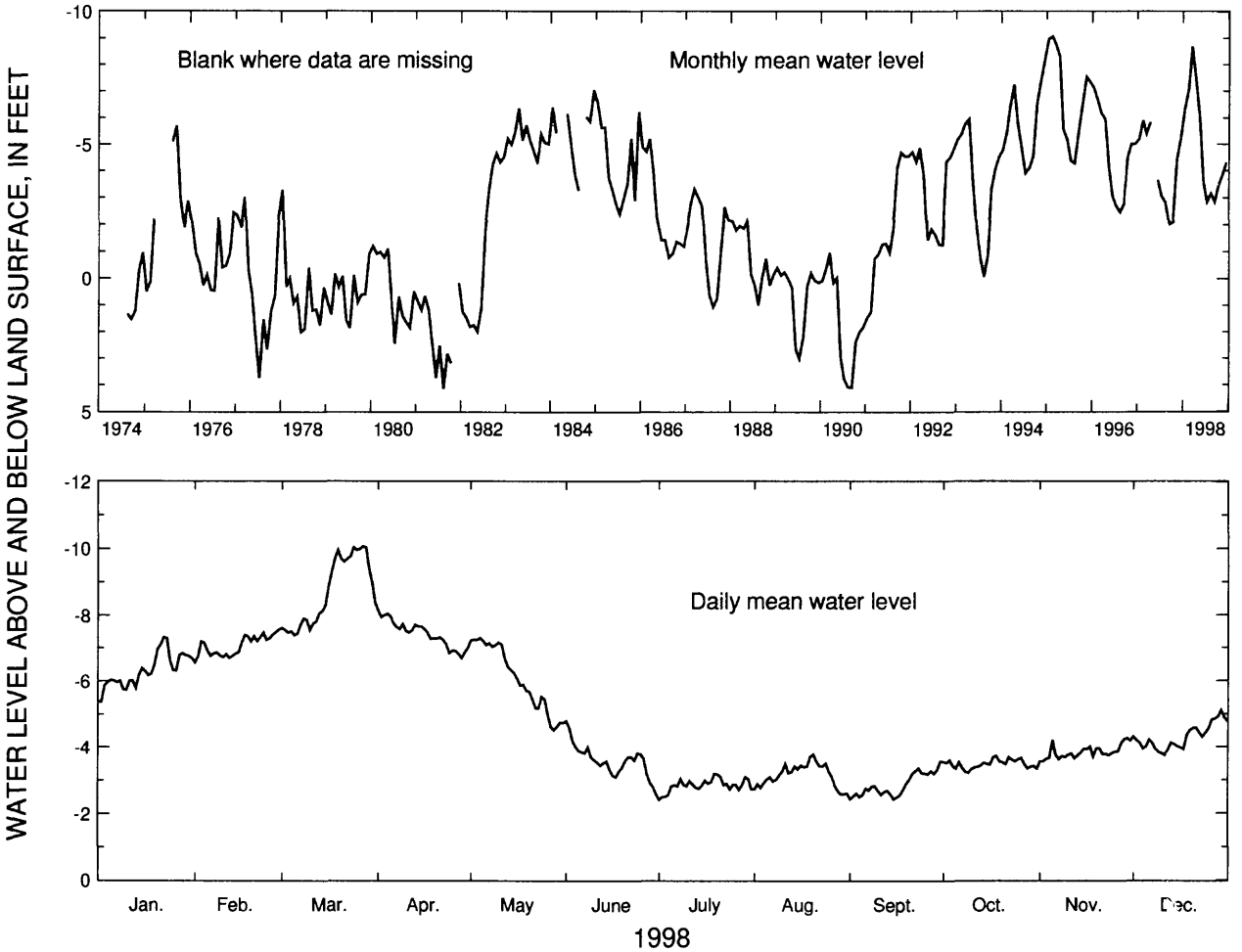
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-7.69	-7.94	-10.26	-8.38	-7.57	-5.06	-3.77	-3.97	-3.95	-4.19	-4.70	-5.46
MEAN	-6.59	-7.46	-8.99	-7.72	-6.32	-4.12	-3.33	-3.41	-3.14	-3.87	-4.18	-4.64
LOW	-5.61	-6.96	-7.81	-7.02	-4.79	-3.14	-2.89	-2.76	-2.64	-3.49	-3.86	-4.09

SUMMARY FOR 1998 HIGH -10.26 (Mar. 25, 1998) MEAN -5.30 LOW -2.64 (Sept. 15, 1998)

[Negative value indicates water level above land surface]

Figure 83. Water level in observation well 34H371, Glynn County.

IDENTIFICATION NUMBER.—34H403.
LOCATION.—Lat 31°08′22″, long 81°29′42″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 24.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; lower water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 982 ft, cased to 788 ft, open hole.
DATUM.—Altitude of land-surface datum is 9.6 ft.
REMARKS.—Well pumped and sampled, June 3 and December 22, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—August 1974 to current year. Continuous record since August 1974.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 12.79 ft above land-surface datum, December 29, 1985; lowest, 4.76 ft below land-surface datum, September 14, 1990.



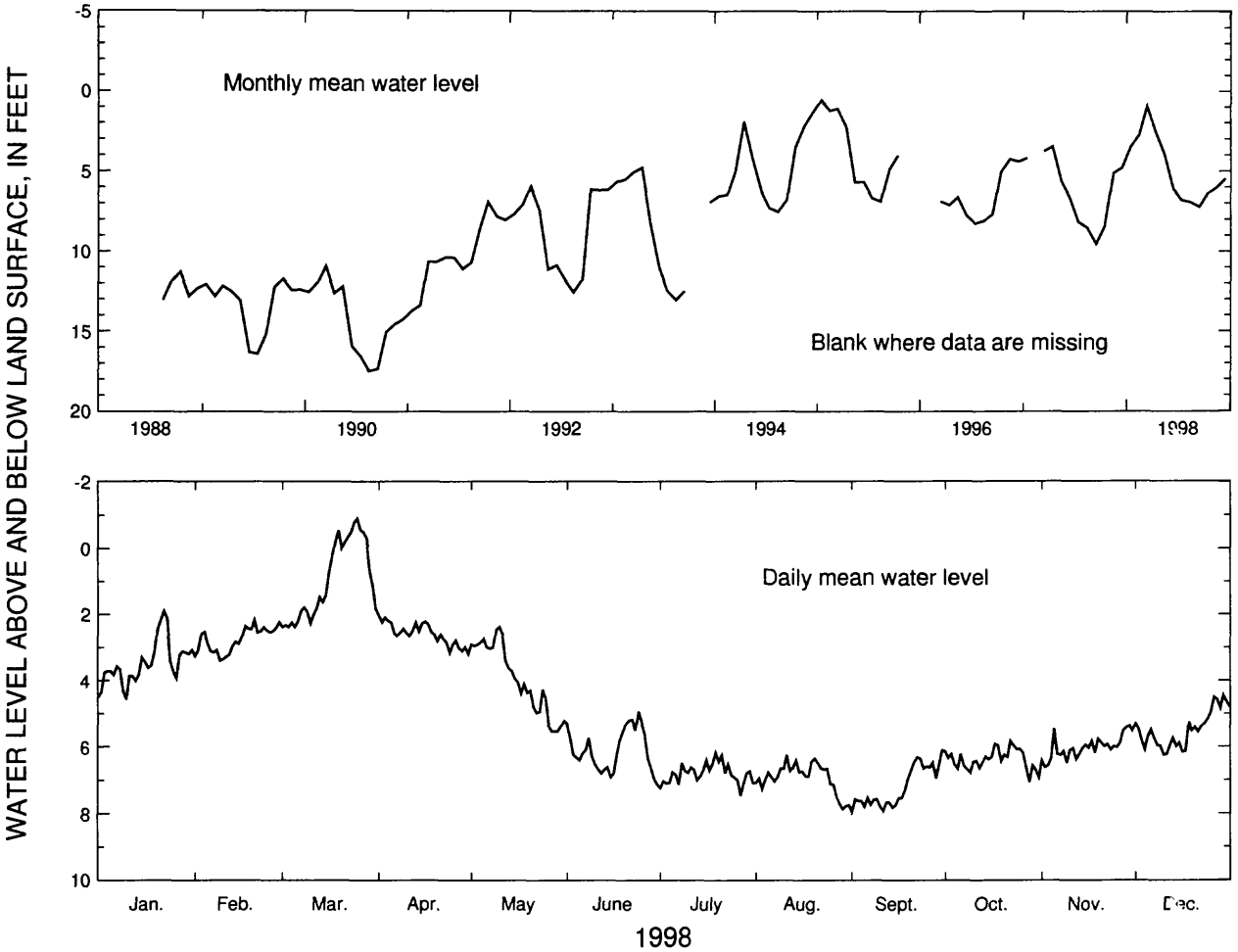
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-7.33	-7.56	-10.07	-8.13	-7.31	-4.79	-3.18	-3.77	-3.56	-3.72	-4.26	-5.11
MEAN	-6.31	-7.07	-8.69	-7.43	-6.09	-3.60	-2.84	-3.15	-2.85	-3.47	-3.84	-4.30
LOW	-5.37	-6.56	-7.39	-6.70	-4.51	-2.59	-2.41	-2.57	-2.42	-3.21	-3.55	-3.75

SUMMARY FOR 1998 HIGH -10.07 (Mar. 27, 1998) MEAN -4.96 LOW -2.41 (July 1, 1998)

[Negative value indicates water level above land surface]

Figure 84. Water level in observation well 34H403, Glynn County.

IDENTIFICATION NUMBER.—34H434.
LOCATION.—Lat 31°09'11", long 81°29'41", Hydrologic Unit 03070203.
SITE NAME.—Glynn County Courthouse (deep).
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan; upper water-bearing zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 and 3 in., depth 670 ft, 4 in. casing to 250 and 3 in. from 250 to 530 ft, open hole.
DATUM.—Altitude of land-surface datum is 10 ft.
REMARKS.—Well pumped and sampled, June 2, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—August 1988 to current year. Continuous record since August 1988.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.91 ft above land-surface datum, March 25, 1998; lowest, 18.62 ft below land-surface datum, September 14, 1990.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	1.90	2.17	-0.91	2.04	2.37	4.93	6.17	6.25	6.11	5.83	5.37	4.45
MEAN	3.48	2.75	0.96	2.58	3.95	6.10	6.80	6.93	7.23	6.39	6.02	5.49
LOW	4.57	3.39	2.37	3.19	5.54	7.13	7.46	7.87	7.96	7.07	6.62	6.25

SUMMARY FOR 1998 HIGH -0.91 (Mar. 25, 1998) MEAN 4.90 LOW 7.96 (Sept. 1, 1998)

[Negative value indicates water level above land surface]

Figure 85. Water level in observation well 34H434, Glynn County.

St Marys-Okefenokee Swamp area

The water level in the Upper Floridan aquifer in the St Marys-Okefenokee Swamp area (fig. 86) was monitored in six wells in 1998 and data from these wells are summarized in figures 87-92. Water levels in wells tapping the aquifer in this area are affected by industrial pumping.

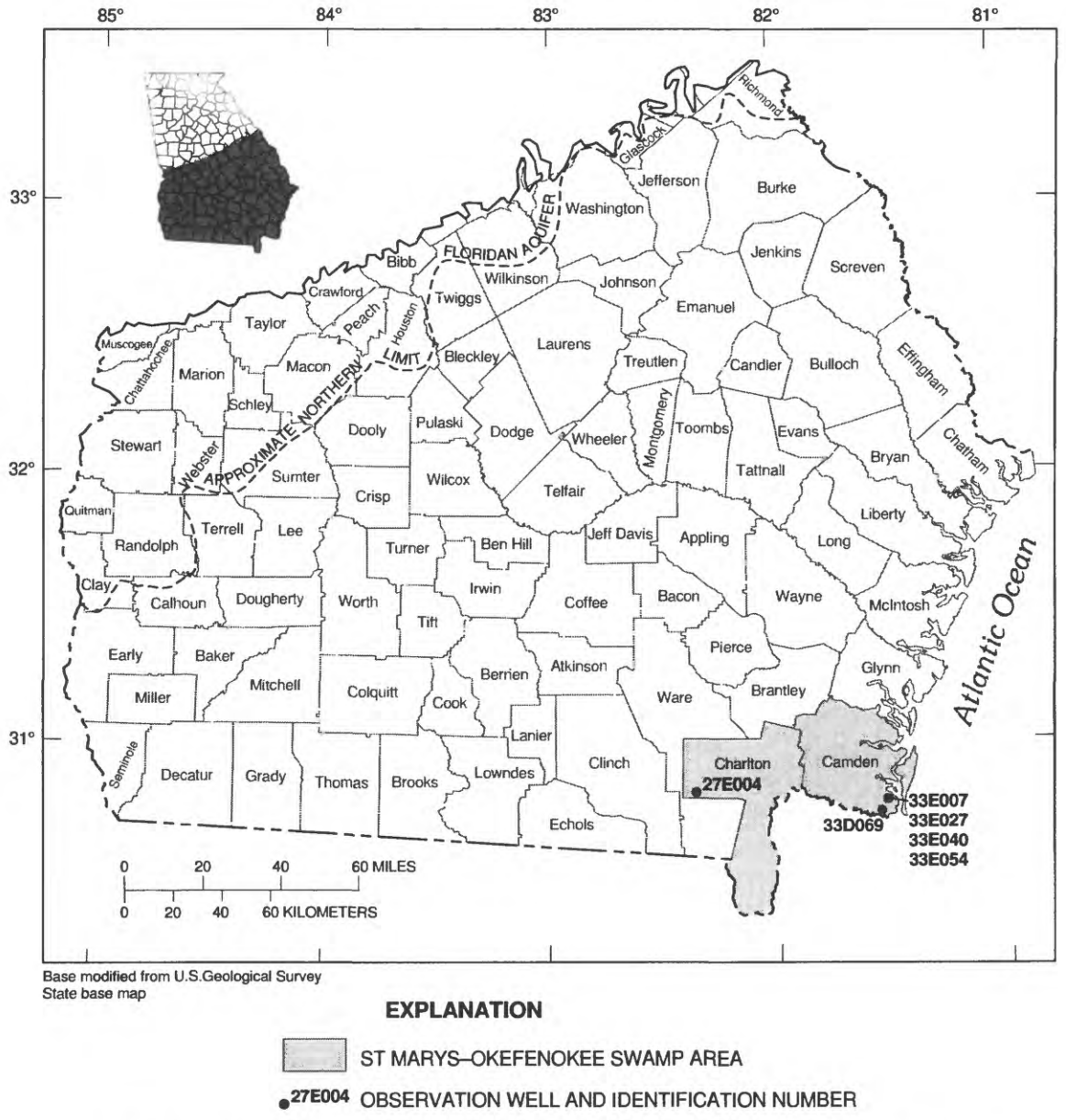
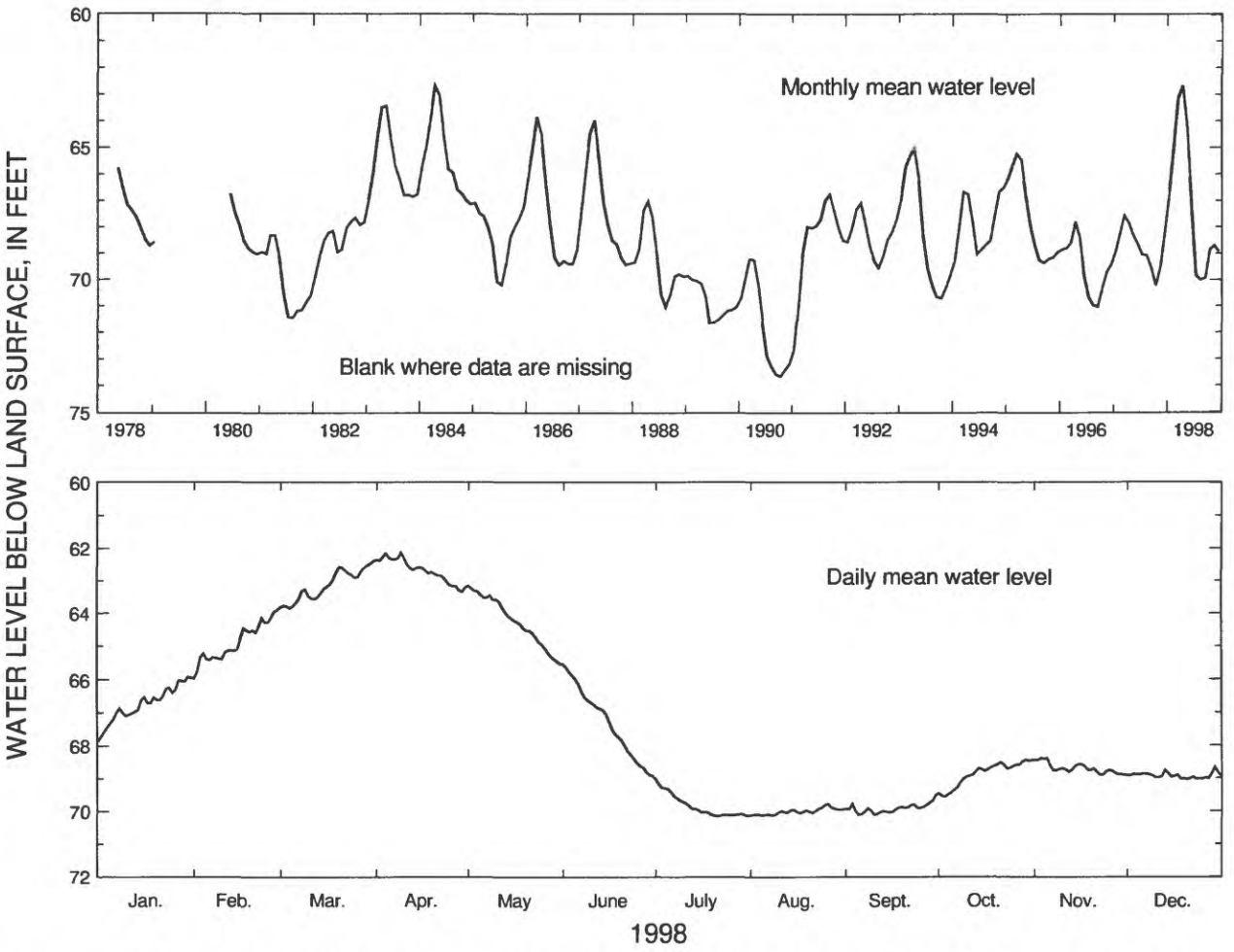


Figure 86. Location of observation wells completed in Upper Floridan aquifer, St Marys–Okefenokee Swamp area.

IDENTIFICATION NUMBER.—27E004.
LOCATION.—Lat 30°49′43″, long 82°21′38″, Hydrologic Unit 03110201.
SITE NAME.—U.S. Geological Survey, test well OK-9.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 700 ft, cased to 498 ft, open hole.
DATUM.—Altitude of land-surface datum is 116 ft.
REMARKS.—Well drilled in May 1978 to replace USGS test well OK-8 (27E002).
PERIOD OF RECORD.—May 1978 to current year. Continuous record since June 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 62.13 ft below land-surface datum, April 9, 1998; lowest, 73.91 ft below land-surface datum, October 7-8, 1990.

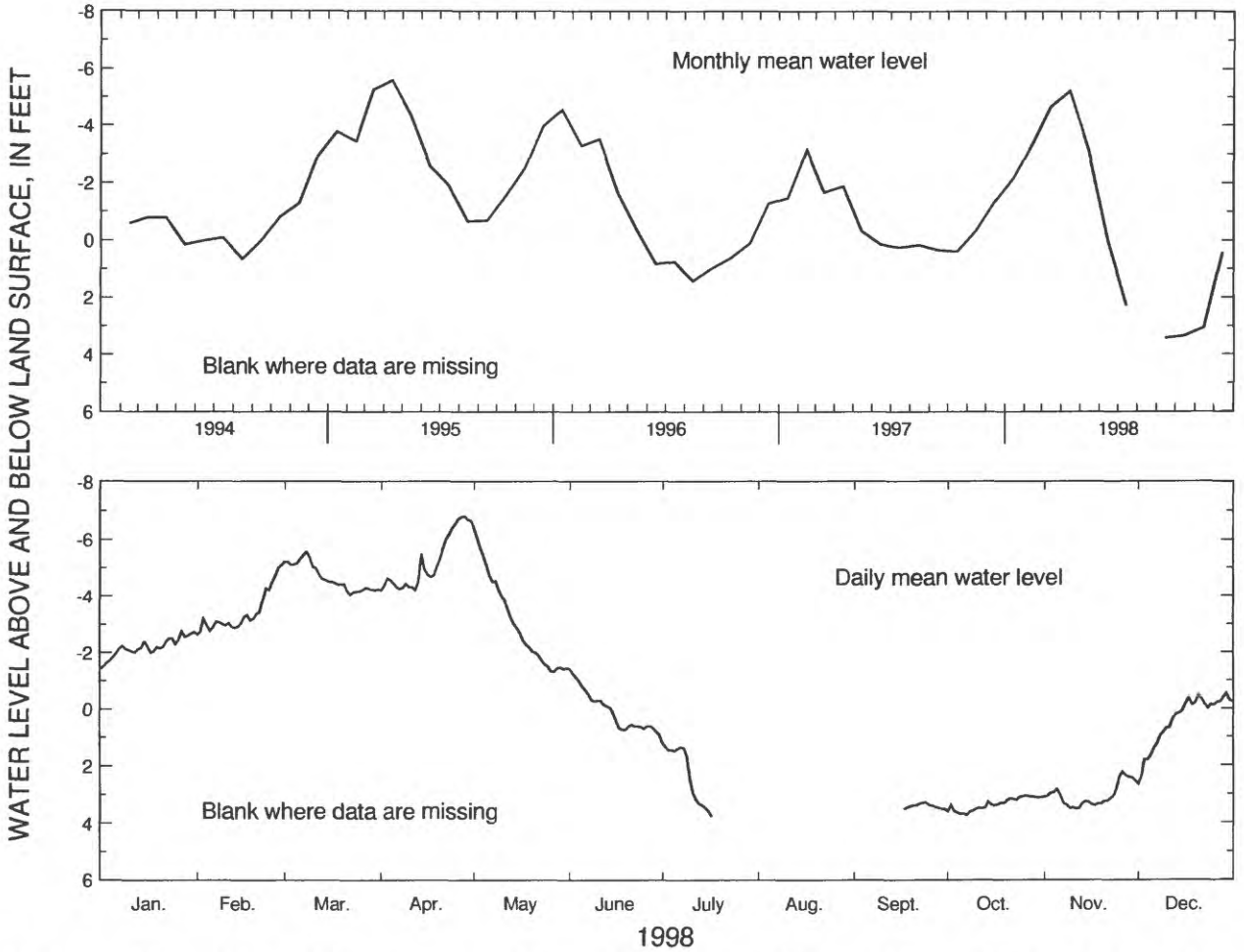


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	65.92	63.91	62.39	62.13	63.15	65.54	69.01	69.77	69.51	68.44	68.39	68.67
MEAN	66.74	64.88	63.15	62.67	64.23	67.30	69.83	70.00	69.92	68.86	68.70	68.93
LOW	67.85	65.96	63.85	63.34	65.53	68.91	70.14	70.12	70.10	69.56	68.90	69.04

SUMMARY FOR 1998 HIGH 62.13 (Apr. 9, 1998) MEAN 67.12 LOW 70.14 (July 21, 1998)

Figure 87. Water level in observation well 27E004, Charlton County.

IDENTIFICATION NUMBER.—33D069.
LOCATION.—Lat 30°43'13", long 81°33'00", Hydrologic Unit 03070204.
SITE NAME.—National Park Service, Cumberland Island National Seashore.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 515 ft, cased to 467 ft, open hole.
DATUM.—Altitude of land-surface datum is 8 ft.
REMARKS.—Water-level data for period, July 18 to September 16, 1998, are missing.
PERIOD OF RECORD.—February 1994 to current year. Continuous record since February 1994.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 8.74 ft above land-surface datum, April 24, 1997; lowest, 3.78 ft below land-surface datum, July 17, 1998, but may have been lower during period of missing record.



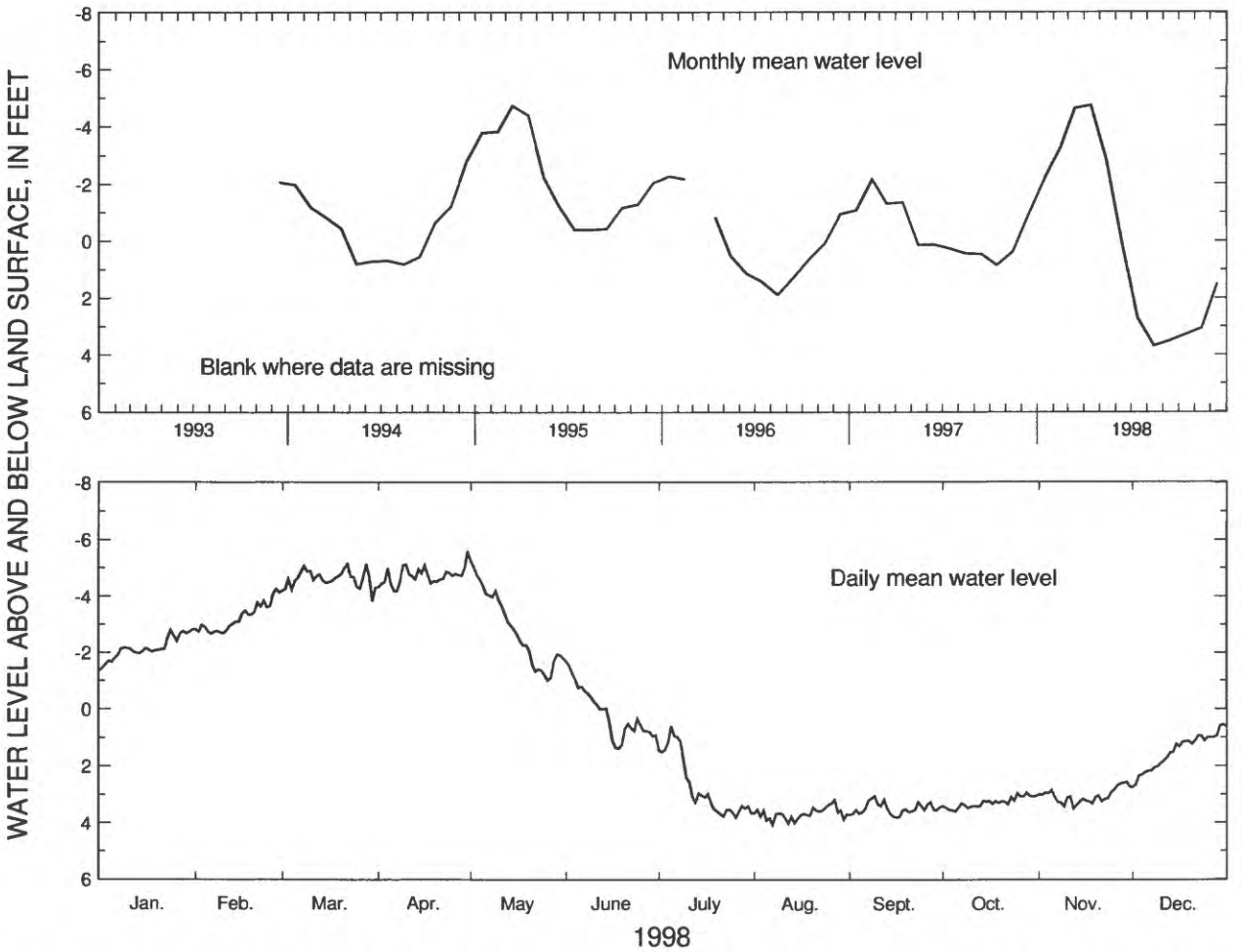
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-2.74	-5.10	-5.56	-6.81	-6.42	-1.42	------	------	------	3.06	2.25	-0.53
MEAN	-2.18	-3.41	-4.65	-5.21	-3.10	0.05	------	------	------	3.36	3.07	0.42
LOW	-1.43	-2.63	-4.05	-4.21	-1.32	0.90	------	------	------	3.74	3.53	2.66

SUMMARY FOR 1998 HIGH -6.81 (Apr. 28, 1998) MEAN -0.86 LOW 3.78 (July 17, 1998)

[Negative value indicates water level above land surface]

Figure 88. Water level in observation well 33D069, Camden County.

IDENTIFICATION NUMBER.—33E007.
LOCATION.—Lat 30°45'10", long 81°34'38", Hydrologic Unit 03070203.
SITE NAME.—Huntly-Jiffy.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled unused domestic well, diameter 3 in., depth 760 ft, cased to 552 ft, open hole.
DATUM.—Altitude of land-surface datum is 18 ft.
REMARKS.—None.
PERIOD OF RECORD.—December 1993 to current year. Continuous record since December 1993.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 5.55 ft above land-surface datum, April 30, 1998; lowest, 4.06 ft below land-surface datum, August 7, 1998.



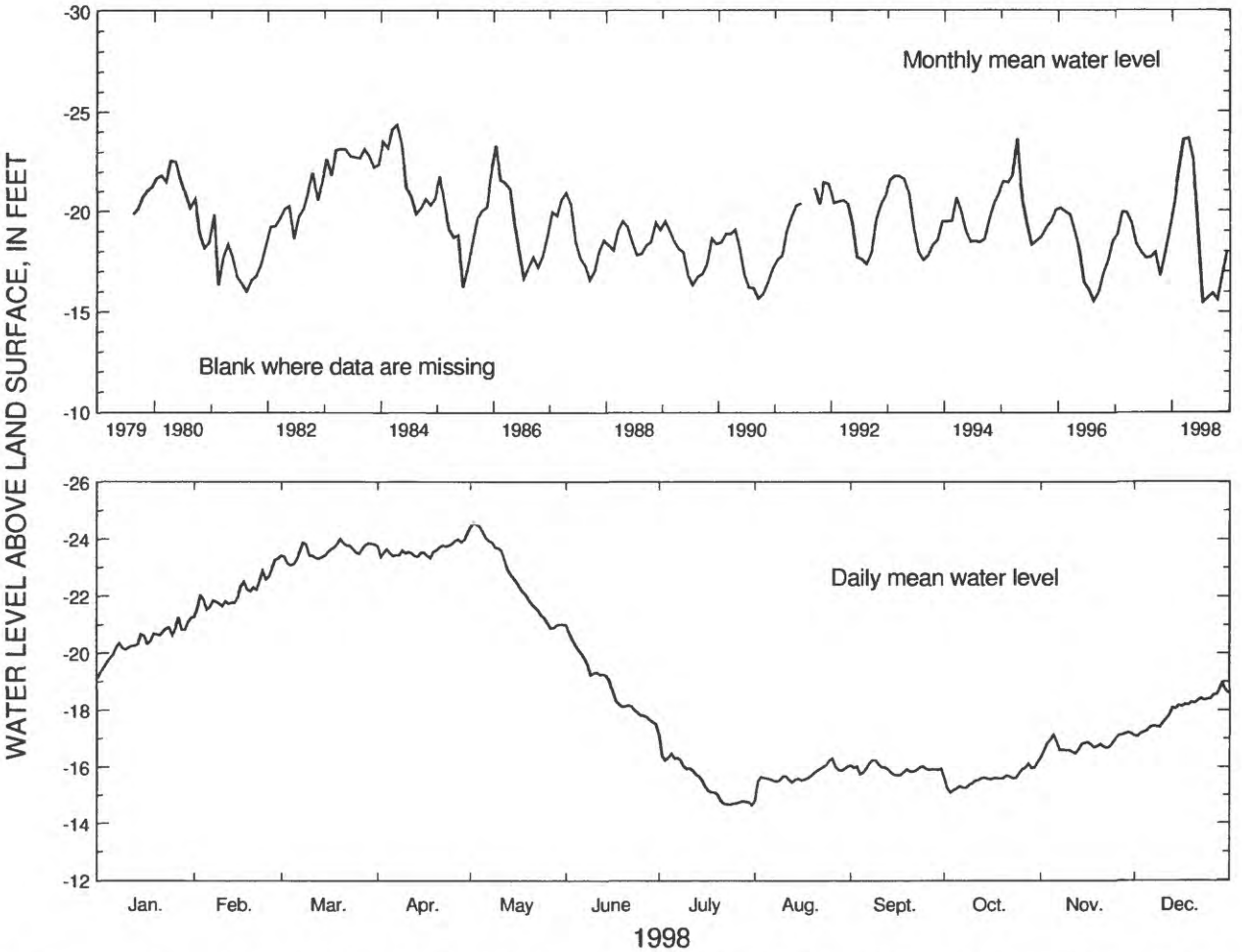
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-2.83	-4.26	-5.14	-5.55	-5.24	-1.69	0.59	3.18	3.06	2.94	2.57	0.56
MEAN	-2.16	-3.24	-4.62	-4.72	-2.84	0.14	2.72	3.68	3.50	3.29	3.06	1.49
LOW	-1.35	-2.67	-3.83	-4.19	-1.01	1.38	3.81	4.06	3.82	3.61	3.51	2.75

SUMMARY FOR 1998 HIGH -5.55 (Apr. 30, 1998) MEAN 0.05 LOW 4.06 (Aug. 7, 1998)

[Negative value indicates water level above land surface]

Figure 89. Water level in observation well 33E007, Camden County.

IDENTIFICATION NUMBER.—33E027.
LOCATION.—Lat 30°47'56", long 81°31'11", Hydrologic Unit 03070203.
SITE NAME.—U.S. Navy, Kings Bay, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 8 in., original depth 1,306 ft, cased to 555 ft, backfilled to 990 ft, open hole.
DATUM.—Altitude of land-surface datum is 10.0 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1979 to current year. Continuous record since August 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 24.71 ft above land-surface datum, March 28, 1984, and March 17, 1983; lowest, 13.90 ft above land-surface datum, June 10-11, 1985.



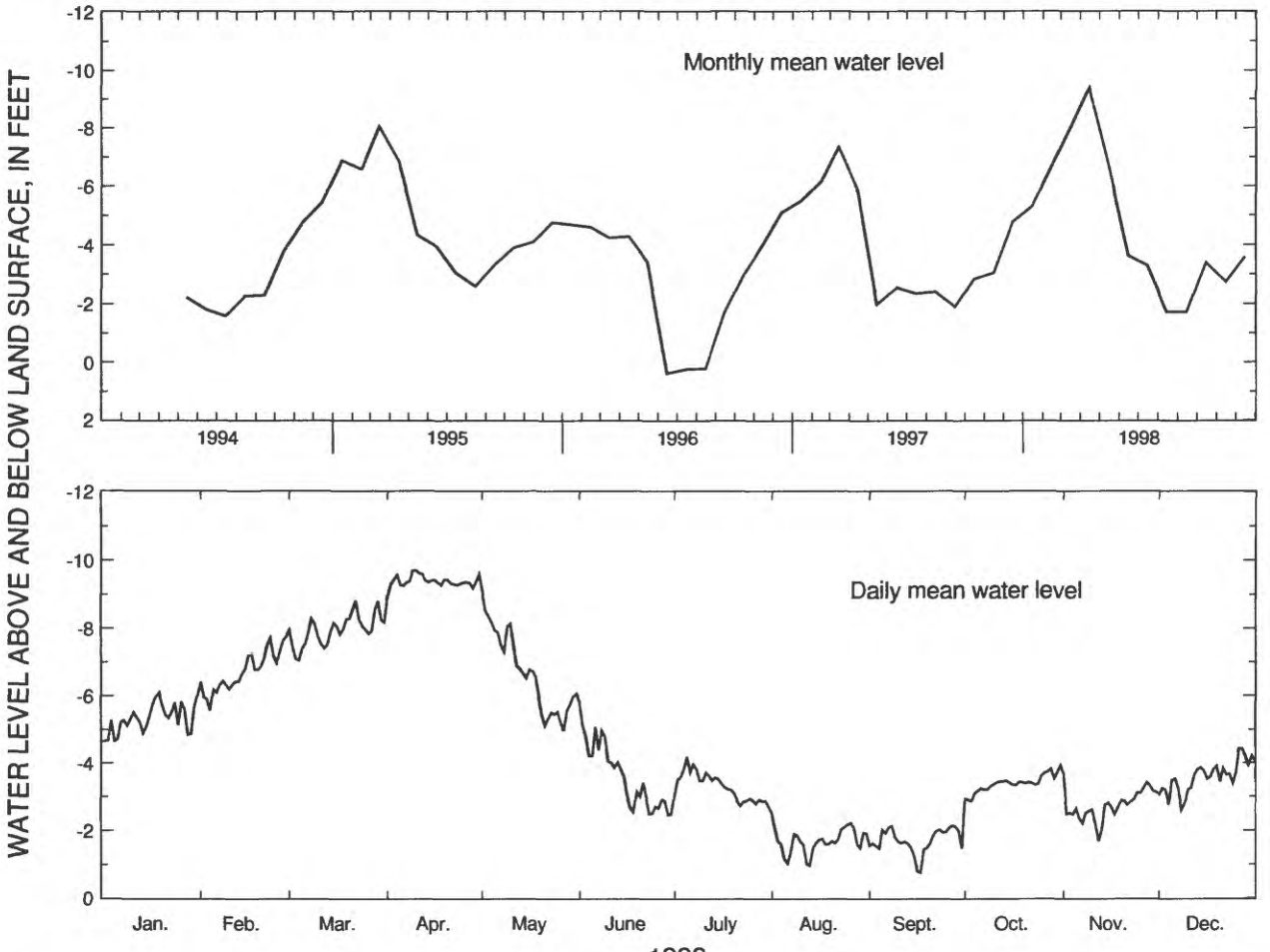
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-21.26	-23.32	-24.00	-24.20	-24.57	-20.99	-17.13	-16.30	-16.25	-16.20	-17.22	-18.95
MEAN	-20.41	-22.14	-23.57	-23.63	-22.61	-18.89	-15.48	-15.71	-15.93	-15.60	-16.81	-18.01
LOW	-19.13	-21.27	-23.08	-23.34	-20.89	-17.51	-14.65	-14.80	-15.71	-15.09	-16.35	-17.07

SUMMARY FOR 1998 HIGH -24.57 (May 2, 1998) MEAN -19.04 LOW -14.65 (July 31, 1998)

[Negative value indicates water level above land surface]

Figure 90. Water level in observation well 33E027, Camden County.

IDENTIFICATION NUMBER.—33E040.
LOCATION.—Lat 30°47′49″, long 81°33′53″, Hydrologic Unit 03070204.
SITE NAME.—U.S. Navy, Kings Bay, observation well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 750 ft, cased to 560 ft, open hole.
DATUM.—Altitude of land-surface datum is 24 ft.
REMARKS.—None.
PERIOD OF RECORD.—May 1994 to current year. Continuous record since May 1994.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 9.71 ft above land-surface datum, April 10, 1998; lowest, 1.24 ft below land-surface datum, August 19, 1996.



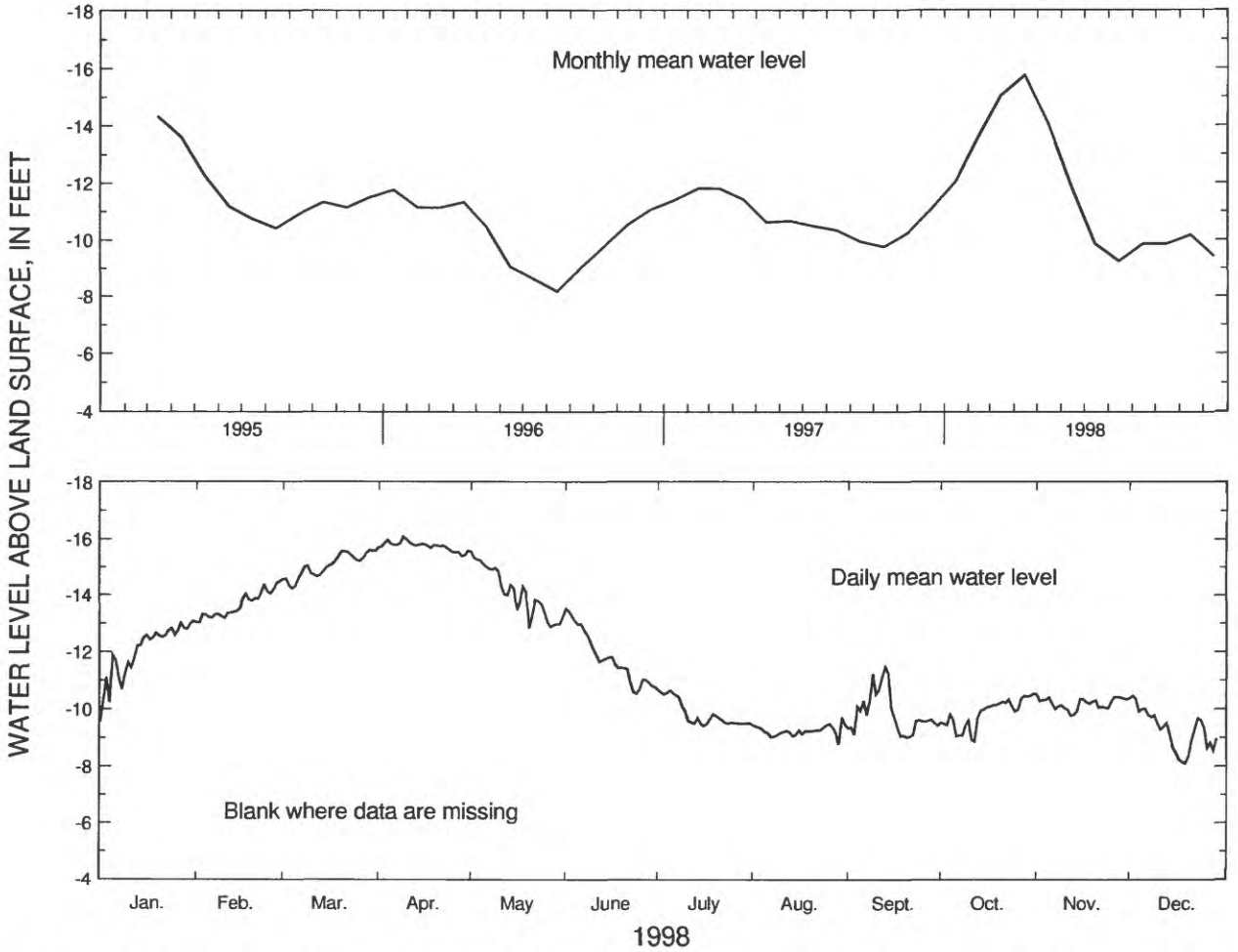
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-6.10	-7.75	-8.81	-9.71	-9.12	-5.83	-4.19	-2.51	-2.15	-3.93	-3.67	-4.43
MEAN	-5.31	-6.72	-7.96	-9.39	-6.70	-3.62	-3.29	-1.71	-1.71	-3.39	-2.73	-3.58
LOW	-4.65	-5.56	-7.05	-8.96	-4.97	-2.47	-2.70	-0.97	-0.76	-2.86	-1.67	-2.59

SUMMARY FOR 1998 HIGH -9.71 (Apr. 10, 1998) MEAN -4.66 LOW -0.76 (Sept. 17, 1998)

[Negative value indicates water level above land surface]

Figure 91. Water level in observation well 33E040, Camden County.

IDENTIFICATION NUMBER.—33E054.
LOCATION.—Lat 30°48'50", long 81°34'20", Hydrologic Unit 03070203.
SITE NAME.—Rayland Company No. 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Upper Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 10 in., depth 640 ft, cased to 63 ft, open hole.
DATUM.—Altitude of land-surface datum is 28 ft.
REMARKS.—Water-level data for period, December 30-31, 1998, are missing.
PERIOD OF RECORD.—March 1995 to current year. Continuous record since March 1995.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 16.08 ft above land-surface datum, April 9, 1998; lowest, 7.70 ft above land-surface datum, August 10, 1996.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-13.08	-14.49	-15.61	-16.08	-15.57	-13.53	-10.68	-9.73	-11.49	-10.54	-10.52	-10.54
MEAN	-12.04	-13.65	-15.05	-15.75	-14.09	-11.81	-9.86	-9.25	-9.85	-9.85	-10.17	-9.42
LOW	-9.55	-13.03	-14.23	-15.41	-12.83	-10.55	-9.42	-8.77	-9.02	-8.86	-9.43	-8.10

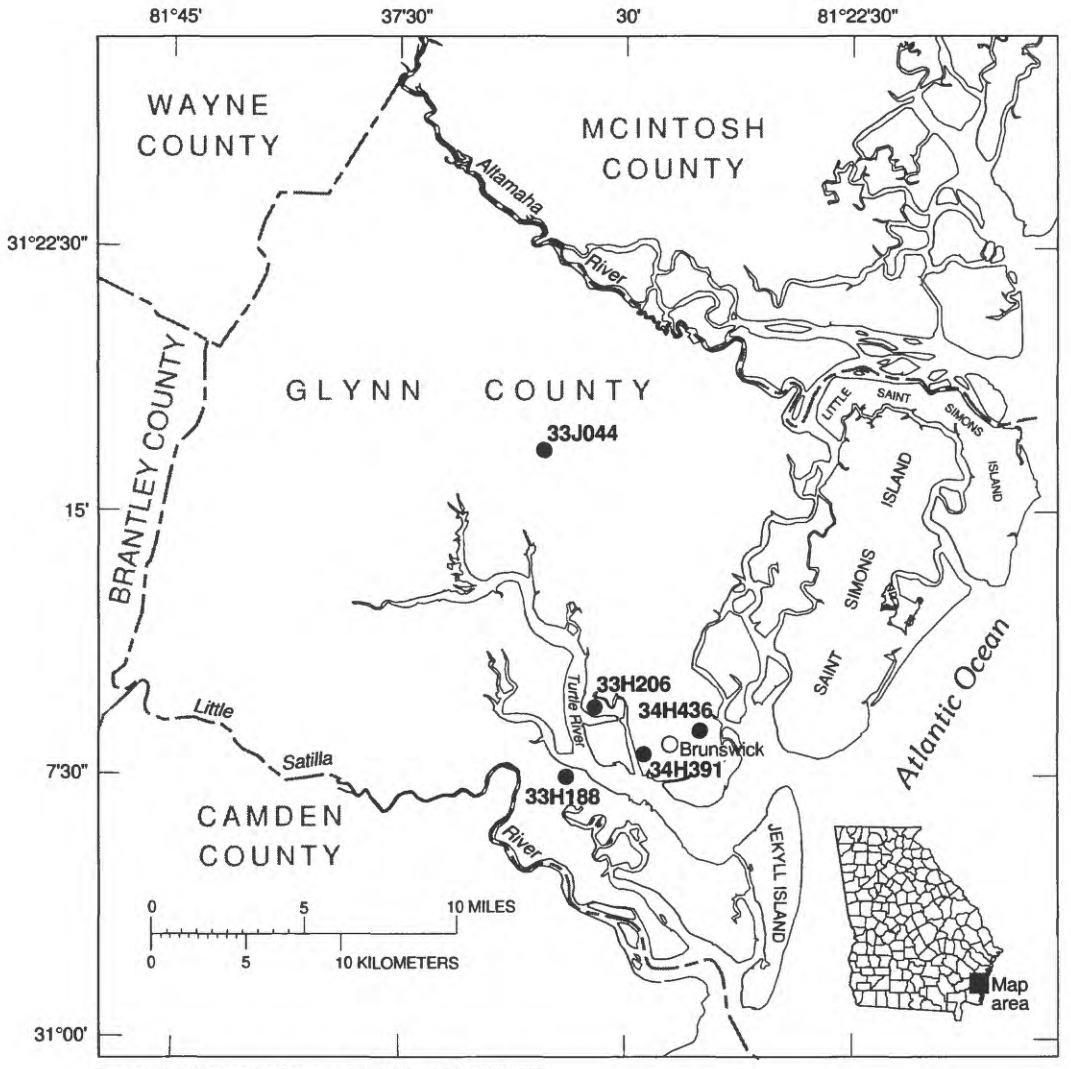
SUMMARY FOR 1998 HIGH -16.08 (Apr. 9, 1998) MEAN -11.73 LOW -8.10 (Dec. 19, 1998)

[Negative value indicates water level above land surface]

Figure 92. Water level in observation well 33E054, Camden County.

Lower Floridan aquifer in the Glynn County area

The water level in the Lower Floridan aquifer was monitored in five wells in the Brunswick area in 1998 and data from these wells (fig. 93) are summarized in figures 94-98. Water levels in wells tapping the Lower Floridan aquifer in this area are mainly influenced by withdrawal from the Upper Floridan aquifer (Krause and Randolph, 1989). In the Brunswick area, the Lower Floridan aquifer includes the brackish-water zone, the deep freshwater zone, and the Fernandina permeable zone.



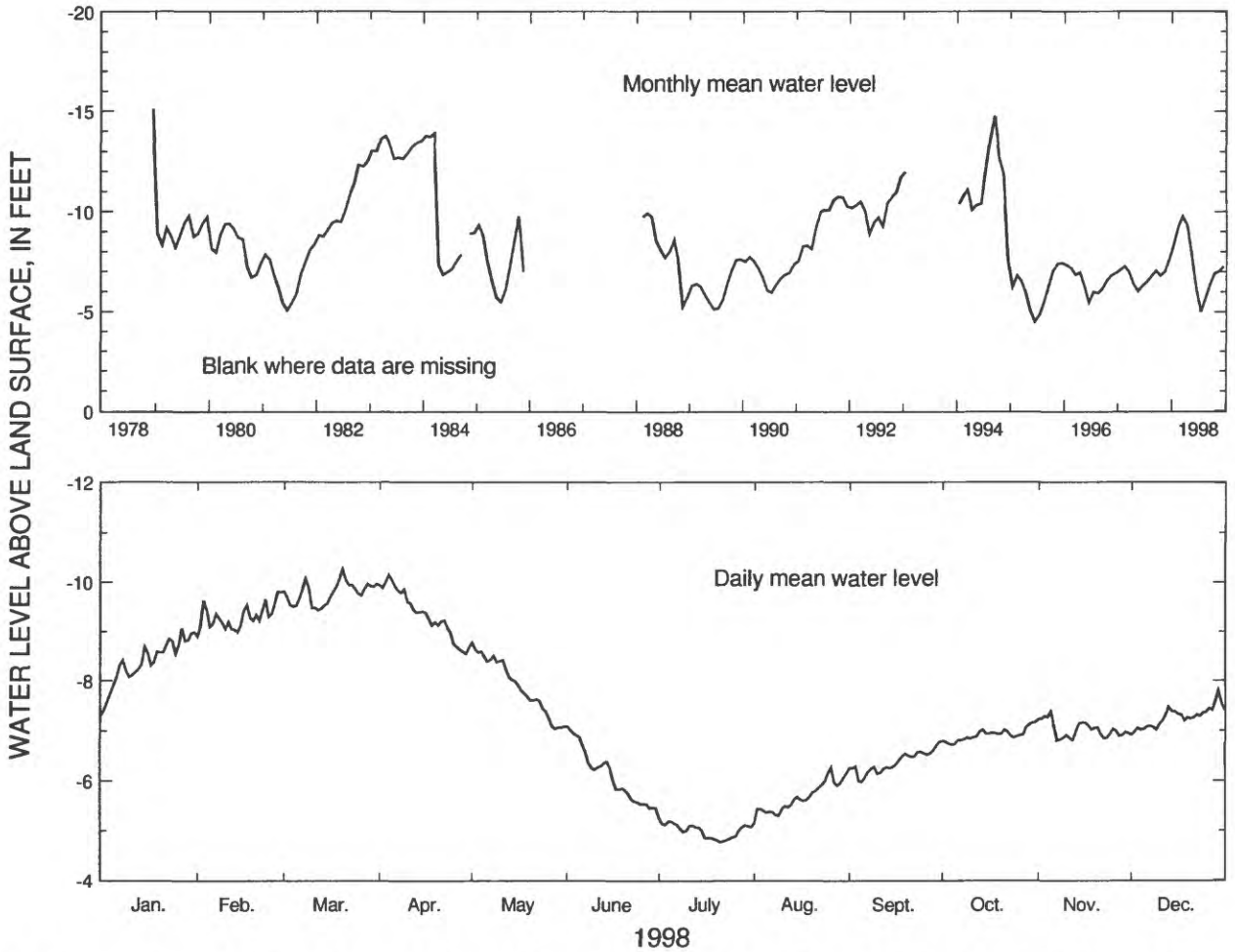
Base from U.S. Geological Survey digital data, 1:100,000, 1981
Universal Transverse Mercator projection, Zone 17

EXPLANATION

● **33H188** OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 93. Location of observation wells completed in Lower Floridan aquifer, Glynn County area.

IDENTIFICATION NUMBER.—33H188.
LOCATION.—Lat 31°08'10", long 81°32'35", Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 26.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Floridan; Fernandina permeable zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 10 in., depth 2,720 ft, cased to 2,138 ft, open hole.
DATUM.—Altitude of land-surface datum is 9.37 ft.
REMARKS.—None.
PERIOD OF RECORD.—December 1978 to current year. Continuous record since December 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 17.20 ft above land-surface datum, December 31, 1978, but may have been higher during period of missing record; lowest, 4.26 ft above land-surface datum, June 15, 1995, but may have been lower during period of missing record.



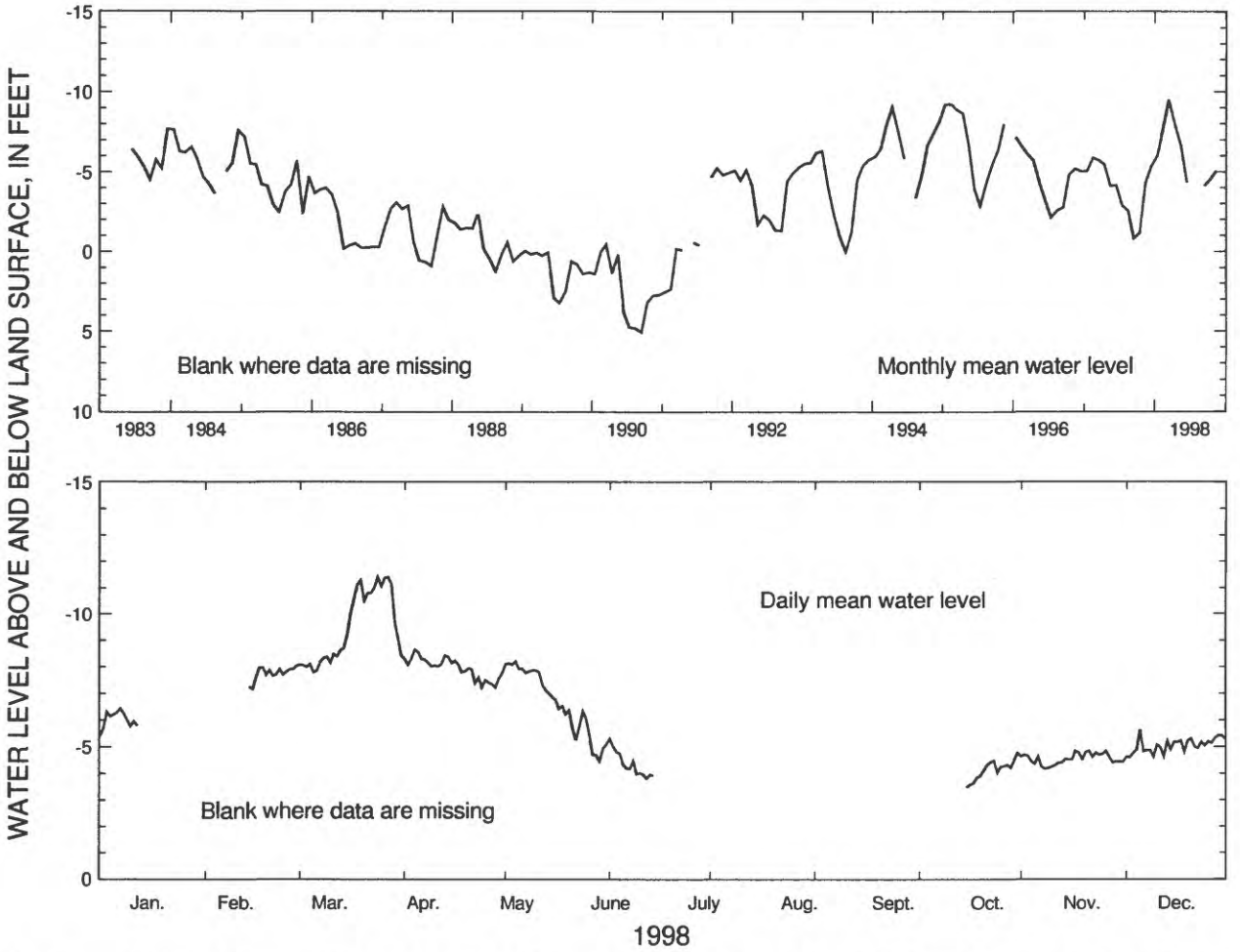
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-9.07	-9.81	-10.26	-10.15	-8.78	-7.08	-5.25	-6.27	-6.77	-7.17	-7.38	-7.80
MEAN	-8.39	-9.31	-9.79	-9.36	-7.90	-6.11	-5.00	-5.67	-6.36	-6.91	-7.02	-7.27
LOW	-7.32	-8.90	-9.44	-8.55	-7.04	-5.45	-4.77	-5.16	-5.98	-6.72	-6.80	-6.92

SUMMARY FOR 1998 HIGH -10.26 (Mar. 20, 1998) MEAN -7.41 LOW -4.77 (July 21, 1998)

[Negative value indicates water level above land surface]

Figure 94. Water level in observation well 33H188, Glynn County.

IDENTIFICATION NUMBER.—33H206.
LOCATION.—Lat 31°09′25″, long 81°31′22″, Hydrologic Unit 03070203.
SITE NAME.—Georgia-Pacific south, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Floridan.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 1,100 ft, cased to 1,000 ft, open hole.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Well pumped and sampled, June 4, 1998, for analysis of chloride concentration. Water-level data for periods, January 13 to February 13, June 15 to September 14, and December 1-31, 1998, are missing.
PERIOD OF RECORD.—June 1983 to current year. Continuous record since June 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 15.23 ft above land-surface datum, December 28, 1983; lowest, 5.93 ft below land-surface datum, July 8, 1990.



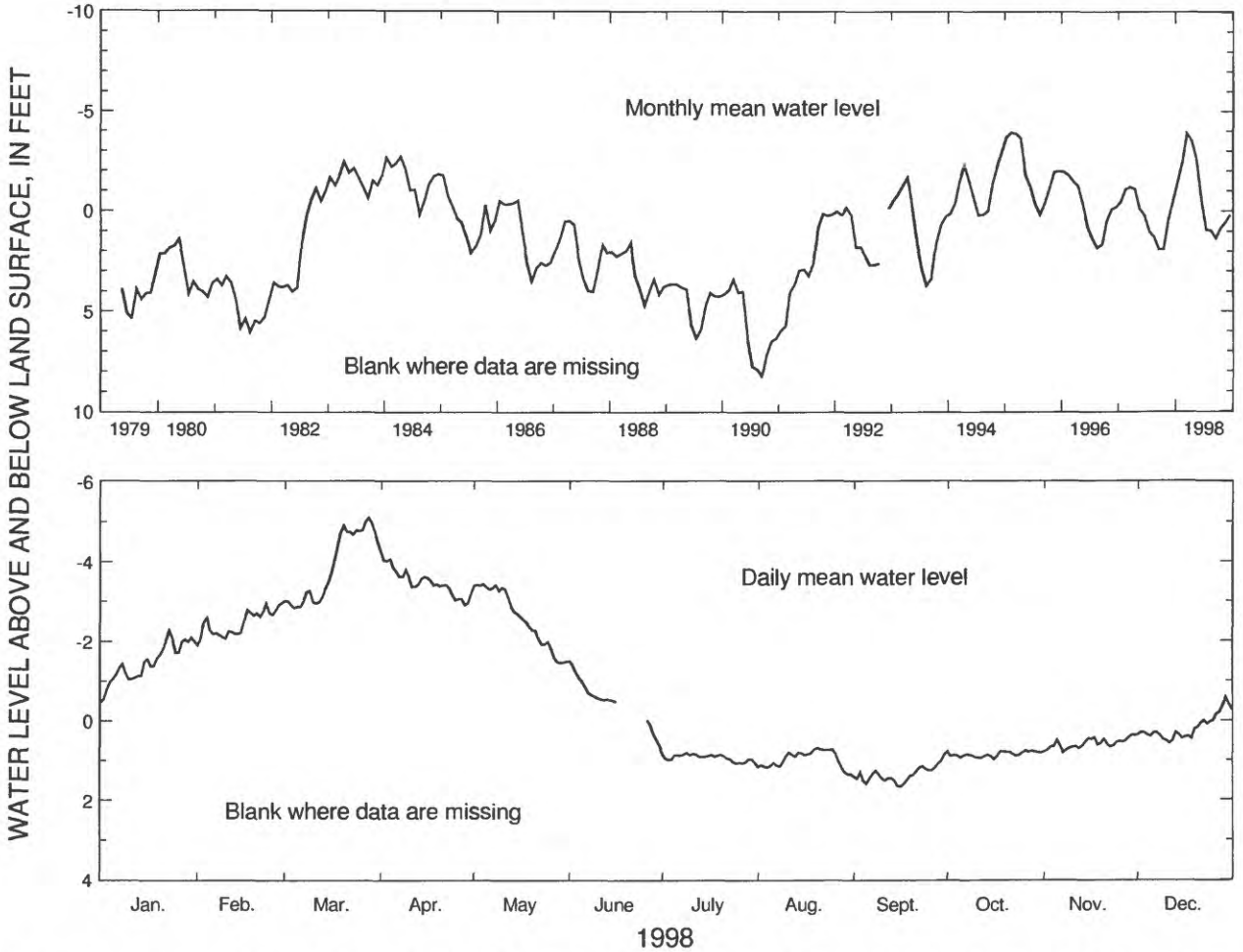
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	------	-11.41	-8.65	-8.21	------	------	------	------	-4.84	-5.63	------
MEAN	------	------	-9.48	-7.95	-6.66	------	------	------	------	-4.54	-5.05	------
LOW	------	------	-7.79	-7.22	-4.47	------	------	------	------	-4.17	-4.60	------

SUMMARY FOR 1998 HIGH -11.41 (Mar. 27, 1998) MEAN -6.41 LOW -3.47 (Sept. 15, 1998)

[Negative value indicates water level above land surface]

Figure 95. Water level in observation well 33H206, Glynn County.

IDENTIFICATION NUMBER.—33J044.
LOCATION.—Lat 31°16'33", long 81°32'40", Hydrologic Unit 03070203.
SITE NAME.—Georgia-Pacific, U.S. Geological Survey, test well 27.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Floridan.
WELL CHARACTERISTICS.—Drilled unused oil-test well converted to observation well, diameter 9 in., depth 2,260 ft, cased to 1,079 ft, open hole.
DATUM.—Altitude of land-surface datum is 20 ft.
REMARKS.—This is the "Sterling oil-test well". Water-level data for period, June 17-25, 1998, are missing
PERIOD OF RECORD.—May 1979 to current year. Continuous record since May 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 5.09 ft above land-surface datum, March 28, 1998; lowest, 8.44 ft below land-surface datum, September 19, 1990.



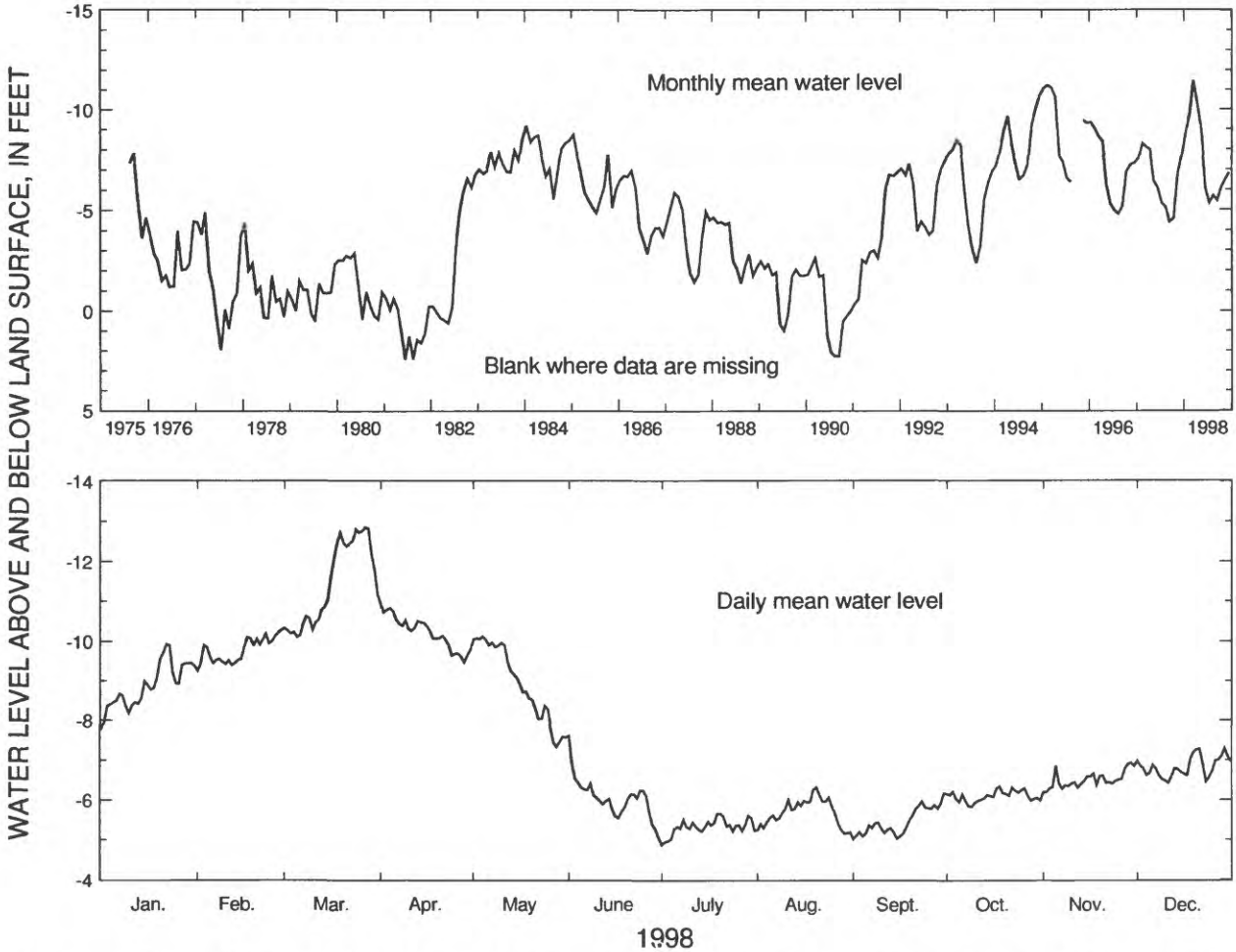
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-2.27	-2.96	-5.09	-4.24	-3.44	------	0.81	0.69	0.86	0.76	0.37	-0.58
MEAN	-1.46	-2.46	-3.88	-3.50	-2.59	------	0.93	0.97	1.36	0.86	0.59	0.19
LOW	-0.48	-1.90	-2.84	-2.91	-1.46	------	1.08	1.36	1.67	0.99	0.82	0.58

SUMMARY FOR 1998 HIGH -5.09 (Mar. 28, 1998) MEAN -0.79 LOW 1.67 (Sept. 16, 1998)

[Negative value indicates water level above land surface]

Figure 96. Water level in observation well 33J044, Glynn County.

IDENTIFICATION NUMBER.—34H391.
LOCATION.—Lat 31°08′18″, long 81°29′42″, Hydrologic Unit 03070203.
SITE NAME.—U.S. Geological Survey, test well 16.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Floridan; brackish-water zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 1,150 ft, cased to 1,070 ft, open hole.
DATUM.—Altitude of land-surface datum is 7.13 ft.
REMARKS.—Well pumped and sampled, June 2 and December 22, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—August 1975 to current year. Continuous record since August 1975.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 12.85 ft above land-surface datum, March 27, 1998; lowest, 2.96 ft below land-surface datum, July 27, 1977.



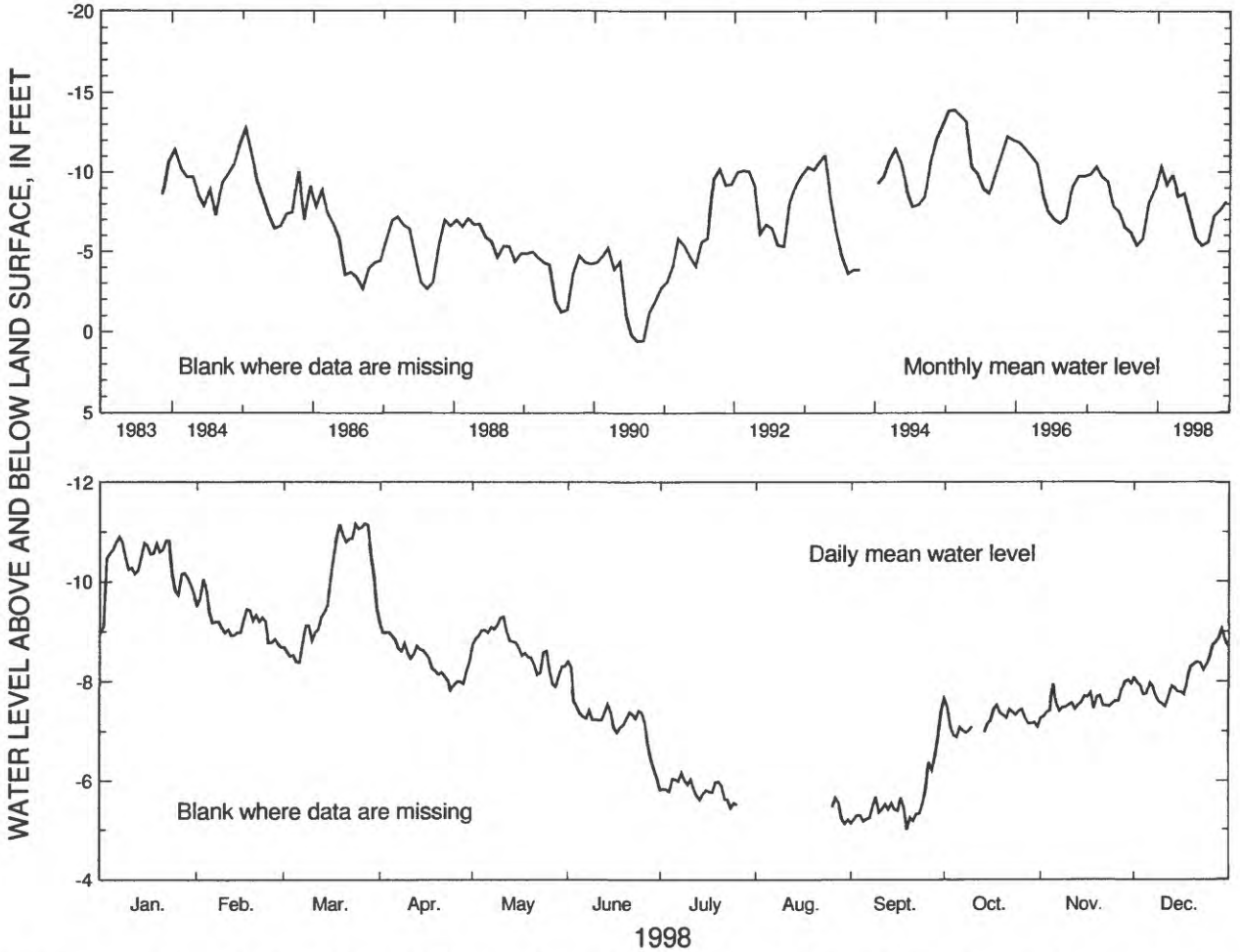
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-9.93	-10.29	-12.85	-10.93	-10.13	-7.61	-5.66	-6.32	-6.17	-6.34	-6.93	-7.29
MEAN	-8.87	-9.78	-11.45	-10.24	-8.93	-6.06	-5.33	-5.70	-5.46	-6.10	-6.50	-6.82
LOW	-7.76	-9.26	-10.12	-9.49	-7.34	-5.06	-4.88	-5.16	-5.02	-5.83	-6.20	-6.43

SUMMARY FOR 1998 HIGH -12.85 (Mar. 27, 1998) MEAN -7.59 LOW -4.88 (July 1, 1998)

[Negative value indicates water level above land surface]

Figure 97. Water level in observation well 34H391, Glynn County.

IDENTIFICATION NUMBER.—34H436.
LOCATION.—Lat 31°09'01", long 81°28'44", Hydrologic Unit 03070203.
SITE NAME.—Georgia Geologic Survey, Coffin Park, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Floridan; brackish-water zone.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 and 4 in., depth 1,103 ft, 6 in. casing to 486 and 4 in. from 486 to 1000 ft, open hole.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Well pumped and sampled, June 2, 1998, for analysis of chloride concentration. Water-level data for periods, July 27 to August 25 and October 11-13, 1998, are missing.
PERIOD OF RECORD.—November 1983 to current year. Continuous record since November 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 18.79 ft above land-surface datum, October 13, 1985; lowest, 1.10 ft below land-surface datum, August 12-13 and 20-21, 1990, but may have been lower during period of missing record.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-10.90	-10.05	-11.17	-9.17	-9.30	-8.41	-6.17	------	-7.41	-7.65	-8.03	-9.05
MEAN	-10.33	-9.18	-9.84	-8.46	-8.65	-7.25	-5.82	------	-5.59	-7.23	-7.60	-8.13
LOW	-8.97	-8.69	-8.39	-7.84	-7.90	-6.06	-5.45	------	-5.00	-6.88	-7.27	-7.50

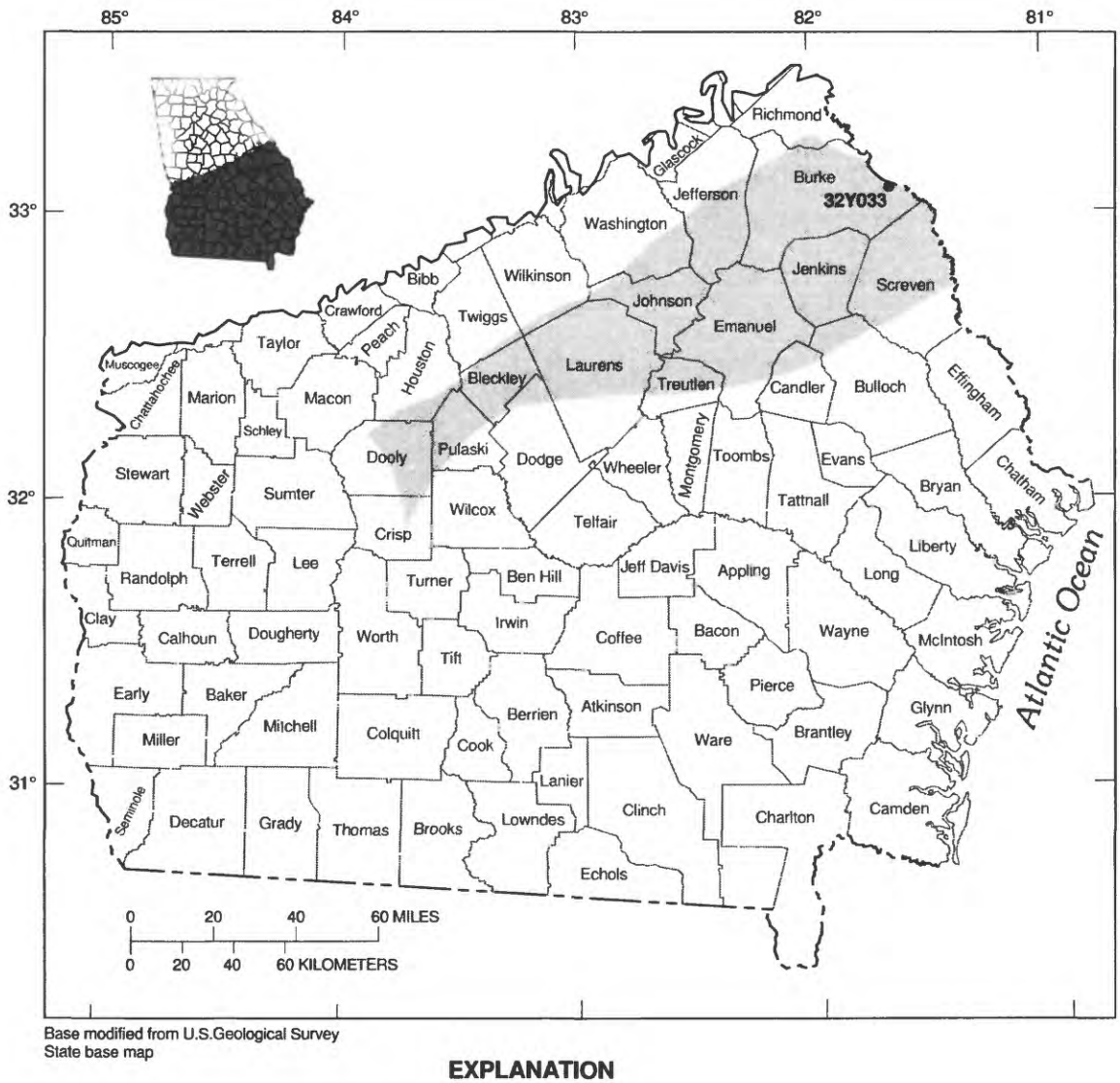
SUMMARY FOR 1998 HIGH -11.17 (Mar. 27, 1998) MEAN -8.00 LOW -5.00 (Sept. 19, 1998)

[Negative value indicates water level above land surface]

Figure 98. Water level in observation well 34H436, Glynn County.

Gordon Aquifer System

The water level the Gordon aquifer system was monitored in one well (fig. 99) in 1998 and data from this well is summarized in figure 100. Water levels in this aquifer system are influenced by seasonal fluctuations in recharge from precipitation, discharge to streams, and evapotranspiration (Clark and others, 1985).



Base modified from U.S.Geological Survey
State base map

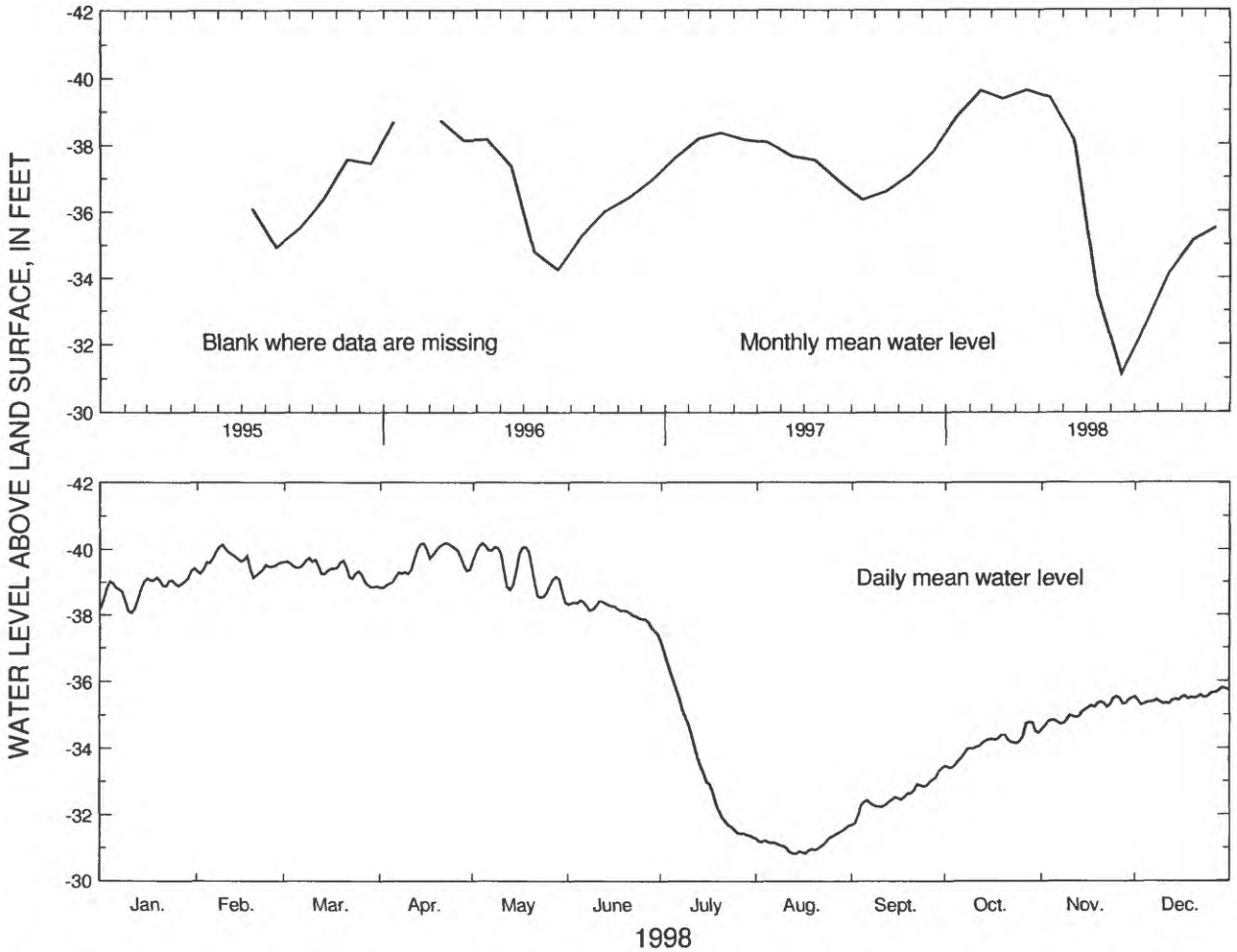
EXPLANATION

GORDON AQUIFER SYSTEM

32Y033 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 99. Location of observation well completed in Gordon aquifer system.

IDENTIFICATION NUMBER.—32Y033.
LOCATION.—Lat 33°05′48″, long 81°39′11″, Hydrologic Unit 03060106.
SITE NAME.—Brighams Landing, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Gordon aquifer system.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 and 4 in., depth 210 ft, 6 in. casing to 125 ft and 4 in. casing from 125 to 150 ft and 200 to 210 ft, screen from 150 to 200 ft.
DATUM.—Altitude of land-surface datum is 85 ft.
REMARKS.—Well freeflows 100-120 gallons per minute.
PERIOD OF RECORD.—July 1995 to current year. Continuous record since July 1995.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 40.20 ft above land-surface datum, April 22, 1998; lowest, 30.82 ft above land-surface datum, August 14, 1998.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-39.43	-40.15	-39.74	-40.20	-40.19	-38.44	-37.19	-31.67	-33.40	-34.77	-35.54	-35.80
MEAN	-38.83	-39.61	-39.37	-39.62	-39.40	-38.12	-33.49	-31.14	-32.54	-34.12	-35.11	-35.50
LOW	-38.07	-39.14	-38.86	-38.83	-38.38	-37.41	-31.32	-30.82	-31.69	-33.40	-34.57	-35.31

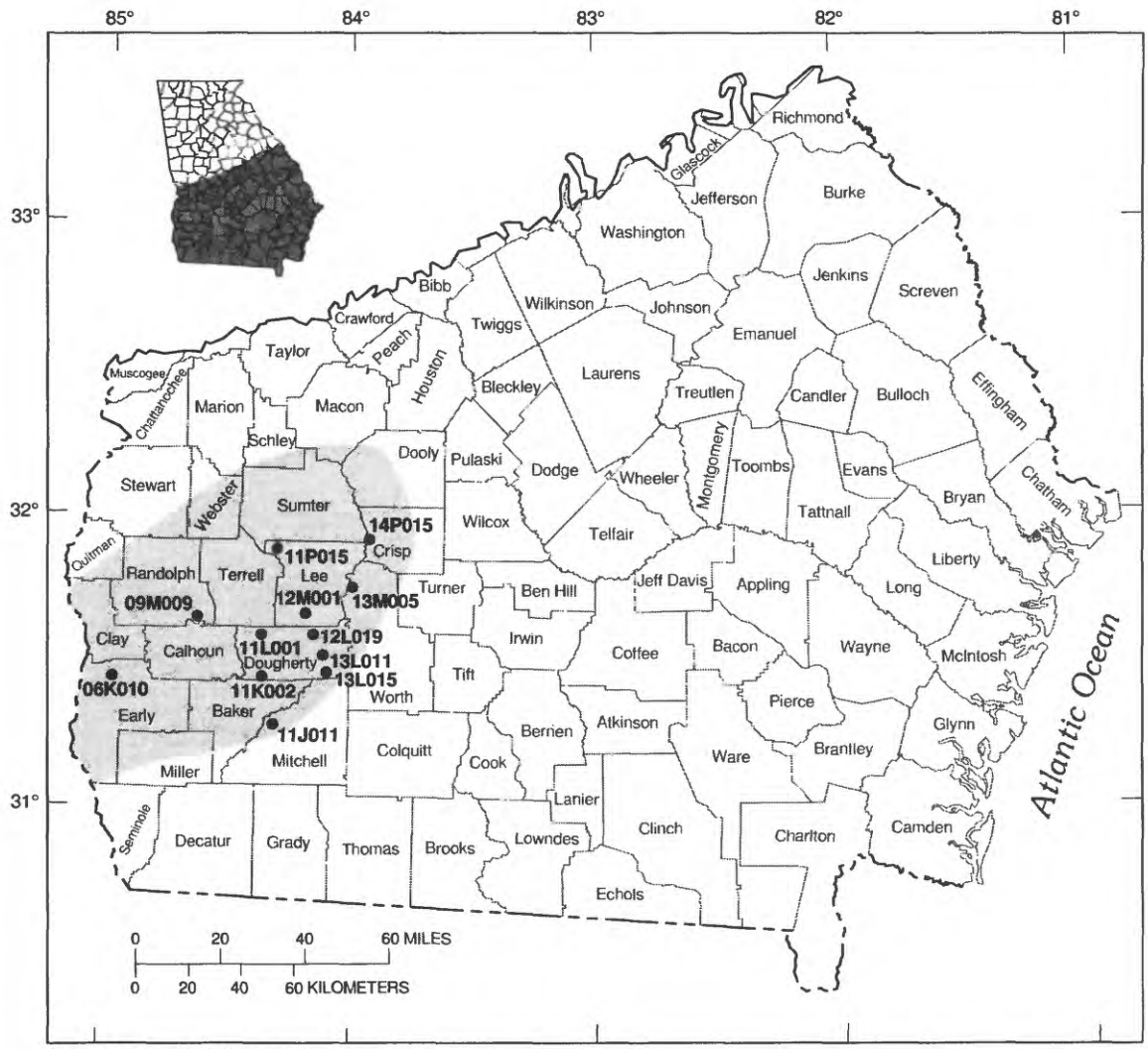
SUMMARY FOR 1998 HIGH -40.20 (Apr. 22, 1998) MEAN -36.38 LOW -30.82 (Aug. 14, 1998)

[Negative value indicates water level above land surface]

Figure 100. Water level in observation well 32Y033, Burke County.

Claiborne Aquifer

The water level in the Claiborne aquifer was monitored in 12 wells in 1998 and data from these wells (fig. 101) are summarized in figures 102-113. The water level in the aquifer is affected mainly by precipitation and by local and regional pumping (Hicks and others, 1981). The water level is generally highest following the winter and spring rainy seasons, and lowest in the fall following the summer irrigation season.



Base modified from U.S.Geological Survey
State base map

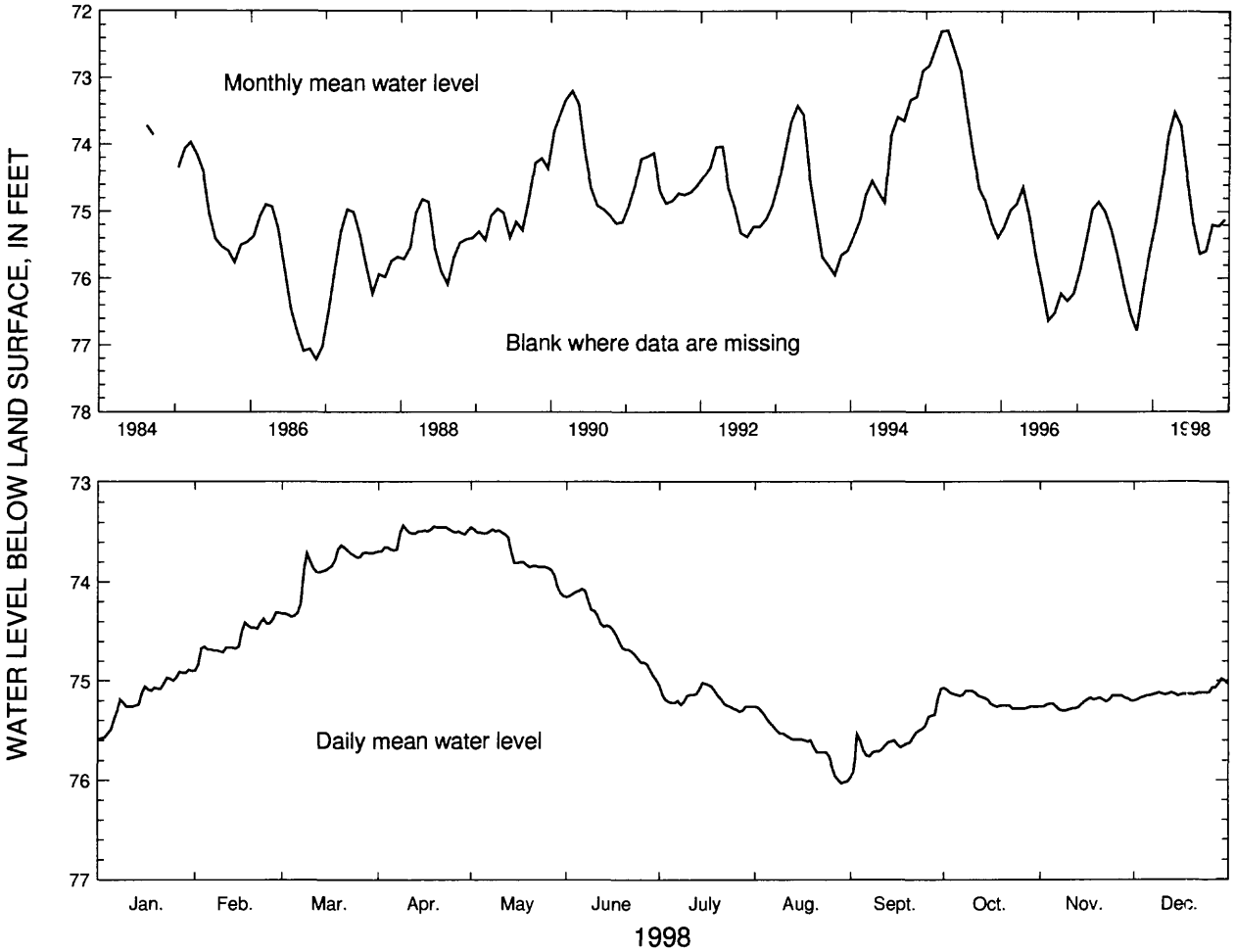
EXPLANATION

CLAIBORNE AND CLAYTON AQUIFERS

●11J011 OBSERVATION WELL IN CLAIBORNE AQUIFER AND IDENTIFICATION NUMBER

Figure 101. Location of observation wells completed in Claiborne aquifer.

IDENTIFICATION NUMBER.—06K010.
LOCATION.—Lat 31°28′24″, long 84°55′09″, Hydrologic Unit 03130004.
SITE NAME.—Georgia Geologic Survey, Kolomoki Mounds State Park, test well 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 140 ft, cased to 120 ft, screen from 120 to 140 ft.
DATUM.—Altitude of land-surface datum is 310 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1984 to current year. Continuous record since January 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 72.22 ft below land-surface datum, March 18, 1995; lowest, 77.35 ft below land-surface datum, November 14, 1986.

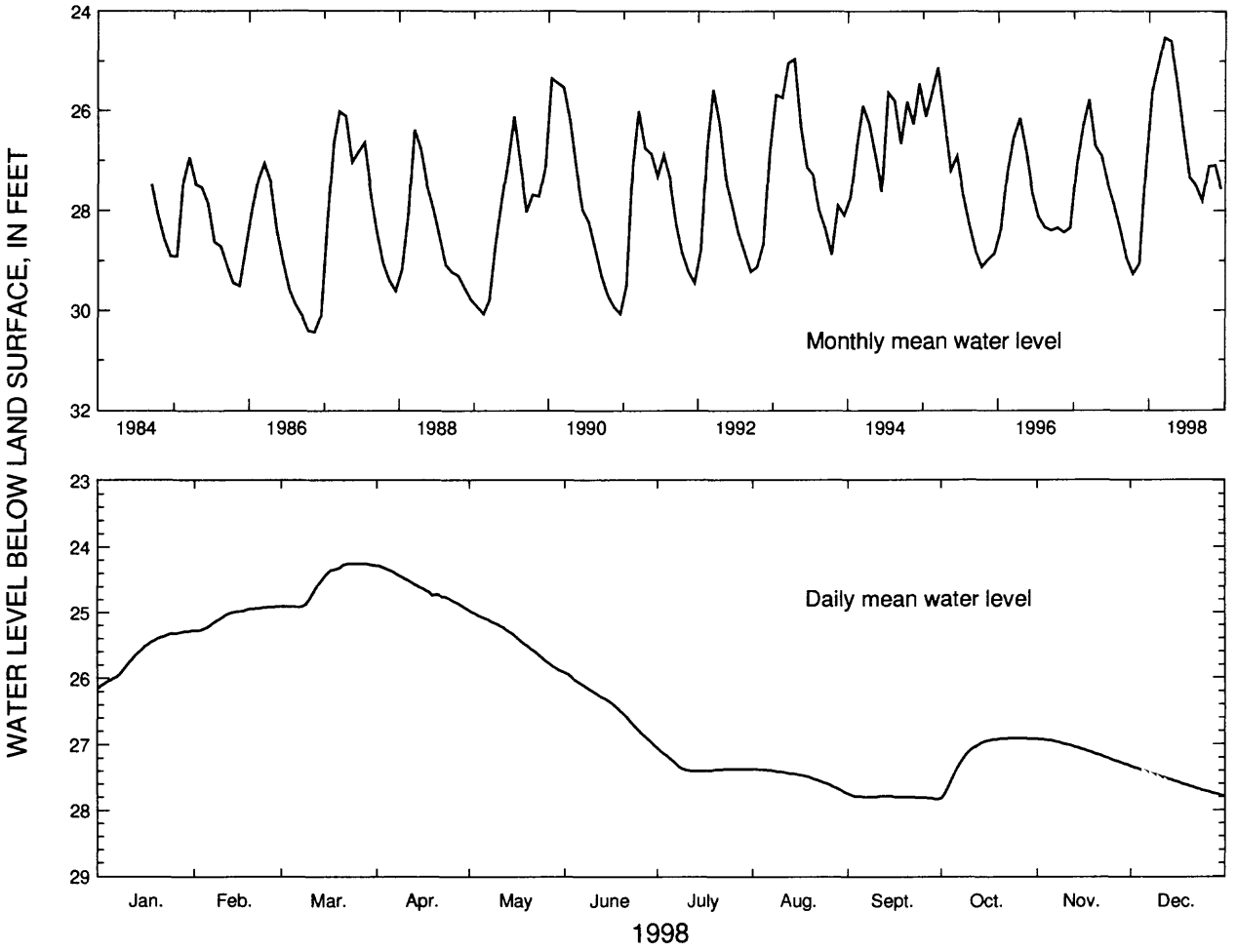


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	74.89	74.31	73.63	73.43	73.45	74.07	75.02	75.26	75.08	75.07	75.15	74.98
MEAN	75.17	74.57	73.89	73.52	73.72	74.49	75.18	75.63	75.59	75.20	75.22	75.12
LOW	75.59	74.90	74.35	73.69	74.14	74.99	75.31	76.03	75.97	75.28	75.30	75.20

SUMMARY FOR 1998 HIGH 73.43 (Apr. 9, 1998) MEAN 74.78 LOW 76.03 (Aug. 29, 1998)

Figure 102. Water level in observation well 06K010, Early County.

IDENTIFICATION NUMBER.—09M009.
LOCATION.—Lat 31°39'52", long 84°36'10", Hydrologic Unit 03130009.
SITE NAME.—C.T. Martin, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 94 ft, cased to 77 ft, screen from 77 to 94 ft.
DATUM.—Altitude of land-surface datum is 322 ft.
REMARKS.—None.
PERIOD OF RECORD.—September 1984 to current year. Continuous record since September 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 24.25 ft below land-surface datum, March 23-28, 1998; lowest, 30.50 ft below land-surface datum, November 3, 1986.

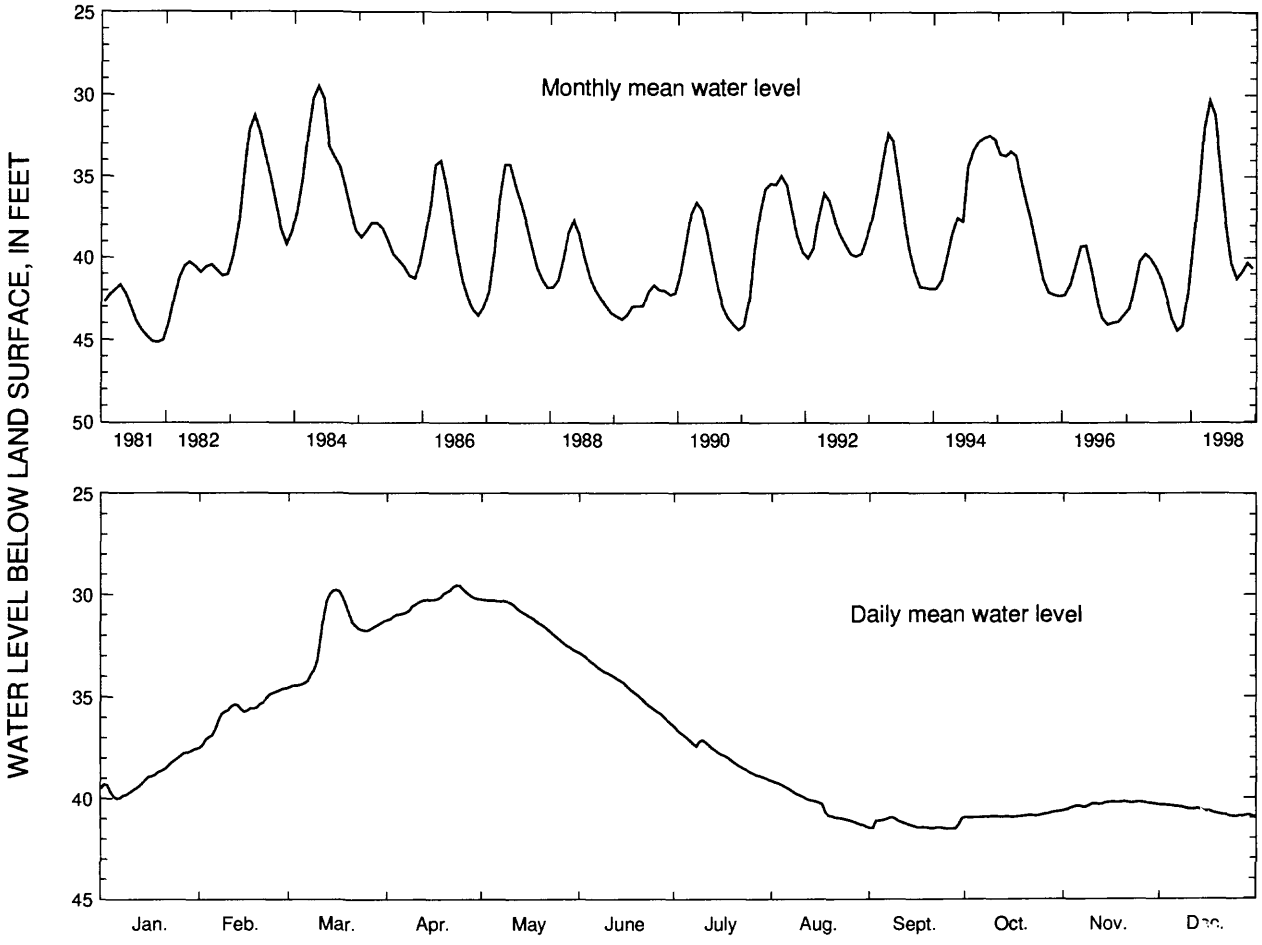


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	25.28	24.90	24.25	24.28	24.97	25.92	27.05	27.37	27.75	26.91	26.92	27.33
MEAN	25.62	25.04	24.53	24.60	25.40	26.41	27.33	27.49	27.80	27.11	27.09	27.57
LOW	26.15	25.28	24.91	24.94	25.90	27.01	27.40	27.73	27.83	27.82	27.31	27.79

SUMMARY FOR 1998 HIGH 24.25 (Mar. 23-28, 1998) MEAN 26.34 LOW 27.83 (Sept. 29-30, 1998)

Figure 103. Water level in observation well 09M009, Randolph County.

IDENTIFICATION NUMBER.—11J011.
LOCATION.—Lat 31°18'02", long 84°19'23", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well DP-10.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 417 ft, cased to 397 ft, open hole.
DATUM.—Altitude of land-surface datum is 165 ft.
REMARKS.—None.
PERIOD OF RECORD.—January 1981 to current year. Continuous record since January 1981.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 29.13 ft below land-surface datum, May 8, 1984; lowest, 45.23 ft below land-surface datum, October 20, 1981.

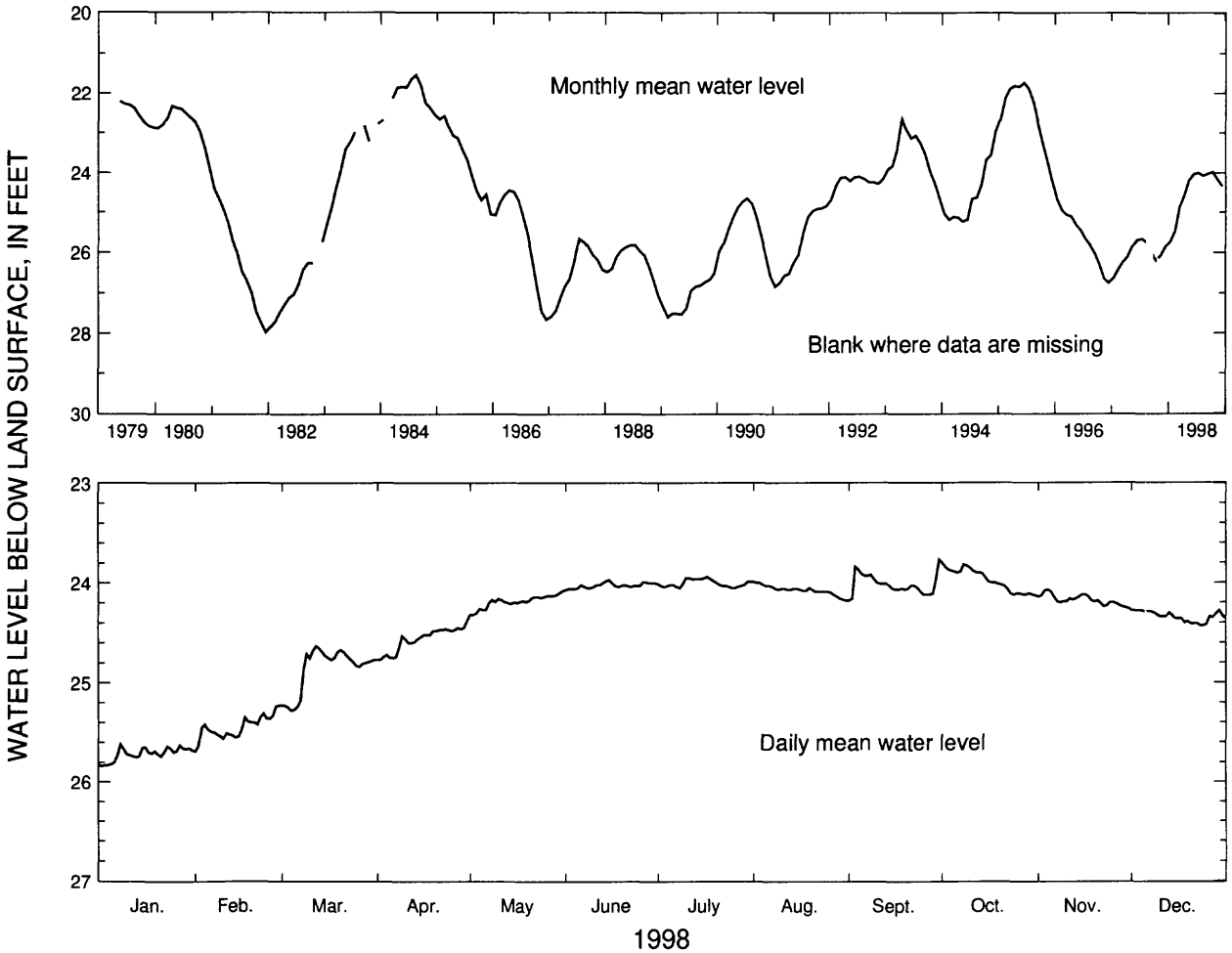


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	37.53	34.59	29.78	29.54	30.23	32.84	36.44	39.15	40.95	40.66	40.19	40.35
MEAN	38.89	35.70	32.05	30.32	31.20	34.51	37.86	40.35	41.31	40.89	40.32	40.67
LOW	40.01	37.48	34.54	31.25	32.77	36.30	39.10	41.41	41.51	40.98	40.63	40.94

SUMMARY FOR 1998 HIGH 29.54 (Apr. 23, 1998) MEAN 37.02 LOW 41.51 (Sept. 25-27, 1998)

Figure 104. Water level in observation well 11J011, Mitchell County.

IDENTIFICATION NUMBER.—11K002.
LOCATION.—Lat 31°26'54", long 84°21'01", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 11.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 320 ft, cased to 300 ft, screen from 300 to 320 ft.
DATUM.—Altitude of land-surface datum is 183.5 ft.
REMARKS.—None.
PERIOD OF RECORD.—May 1979 to current year. Continuous record since May 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 21.57 ft below land-surface datum, June 6, 1995; lowest, 28.04 ft below land-surface datum, December 24, 1981.

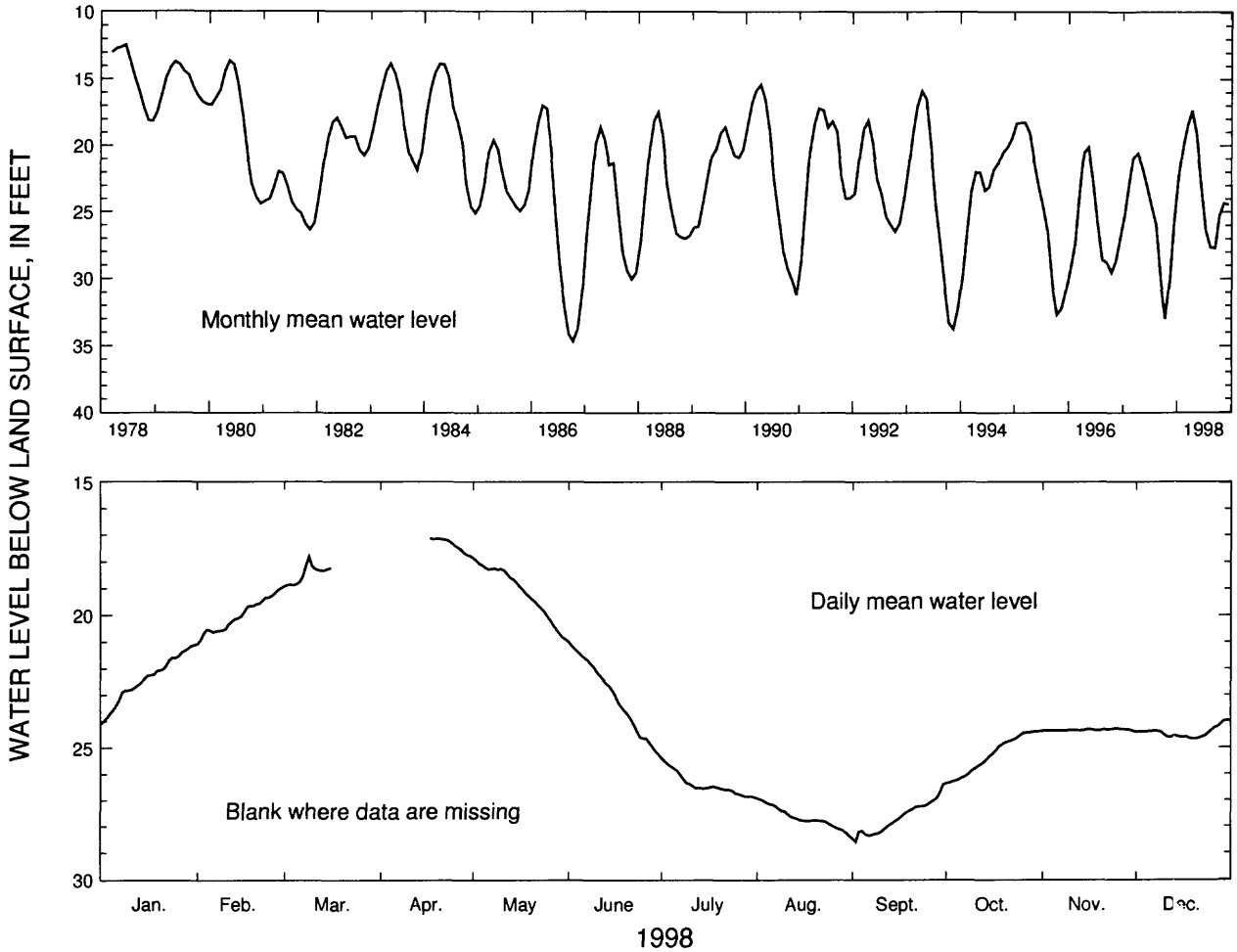


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	25.62	25.23	24.63	24.38	24.08	23.97	23.94	23.99	23.77	23.80	24.07	24.28
MEAN	25.72	25.45	24.86	24.56	24.19	24.03	24.00	24.07	24.02	23.98	24.17	24.34
LOW	25.84	25.69	25.28	24.77	24.32	24.07	24.05	24.18	24.18	24.13	24.26	24.43

SUMMARY FOR 1998 HIGH 23.77 (Sept. 30, 1998) MEAN 24.44 LOW 25.84 (Jan. 2, 1998)

Figure 105. Water level in observation well 11K002, Dougherty County.

IDENTIFICATION NUMBER.—11L001.
LOCATION.—Lat 31°35′30″, long 84°20′34″, Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 4.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 251 ft, cased to 233 ft, screen from 233 to 251 ft.
DATUM.—Altitude of land-surface datum is 220 ft.
REMARKS.—Water-level data for period, March 17 to April 16, 1998, are missing.
PERIOD OF RECORD.—March 1978 to current year. Continuous record since March 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 12.11 ft below land-surface datum, June 5-6, 1978; lowest, 34.75 ft below land-surface datum, October 19-20, 1986.

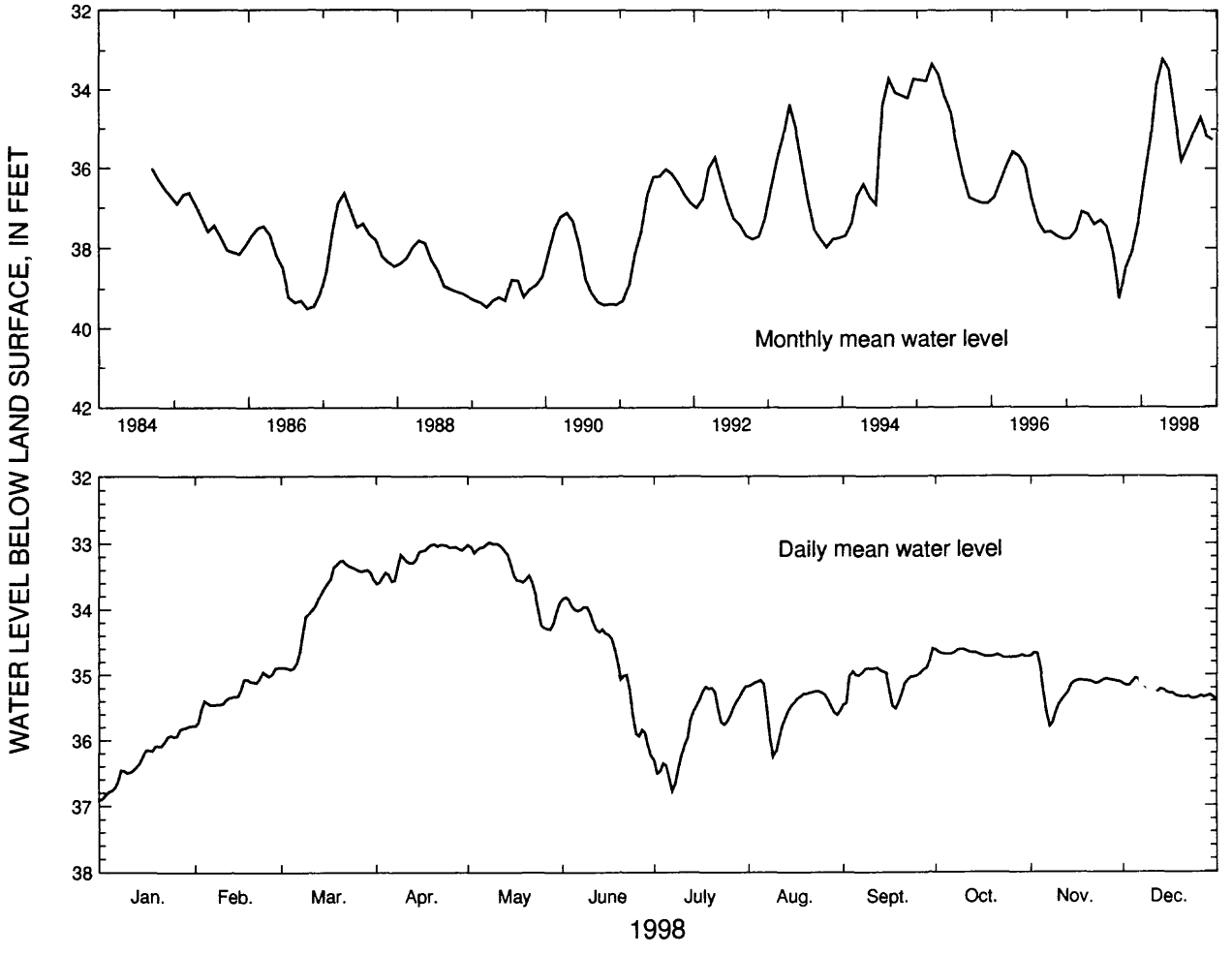


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	21.10	18.99	------	------	17.85	21.00	25.40	26.93	26.40	24.38	24.29	23.97
MEAN	22.41	20.01	------	------	19.11	23.06	26.39	27.65	27.69	25.28	24.34	24.43
LOW	24.10	21.06	------	------	20.90	25.25	26.88	28.37	28.59	26.35	24.38	24.67

SUMMARY FOR 1998 HIGH 17.12 (Apr. 17, 1998) MEAN 23.52 LOW 28.59 (Sept. 2, 1998)

Figure 106. Water level in observation well 11L001, Dougherty County.

IDENTIFICATION NUMBER.—11P015.
LOCATION.—Lat 31°53′50″, long 84°19′21″, Hydrologic Unit 03130007.
SITE NAME.—Pete Long, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 151 ft, cased to 111 ft, open hole.
DATUM.—Altitude of land-surface datum is 338 ft.
REMARKS.—None.
PERIOD OF RECORD.—September 1984 to current year. Continuous record since September 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 32.98 ft below land-surface datum, May 8, 1998; lowest, 40.08 ft below land-surface datum, September 9, 1997.

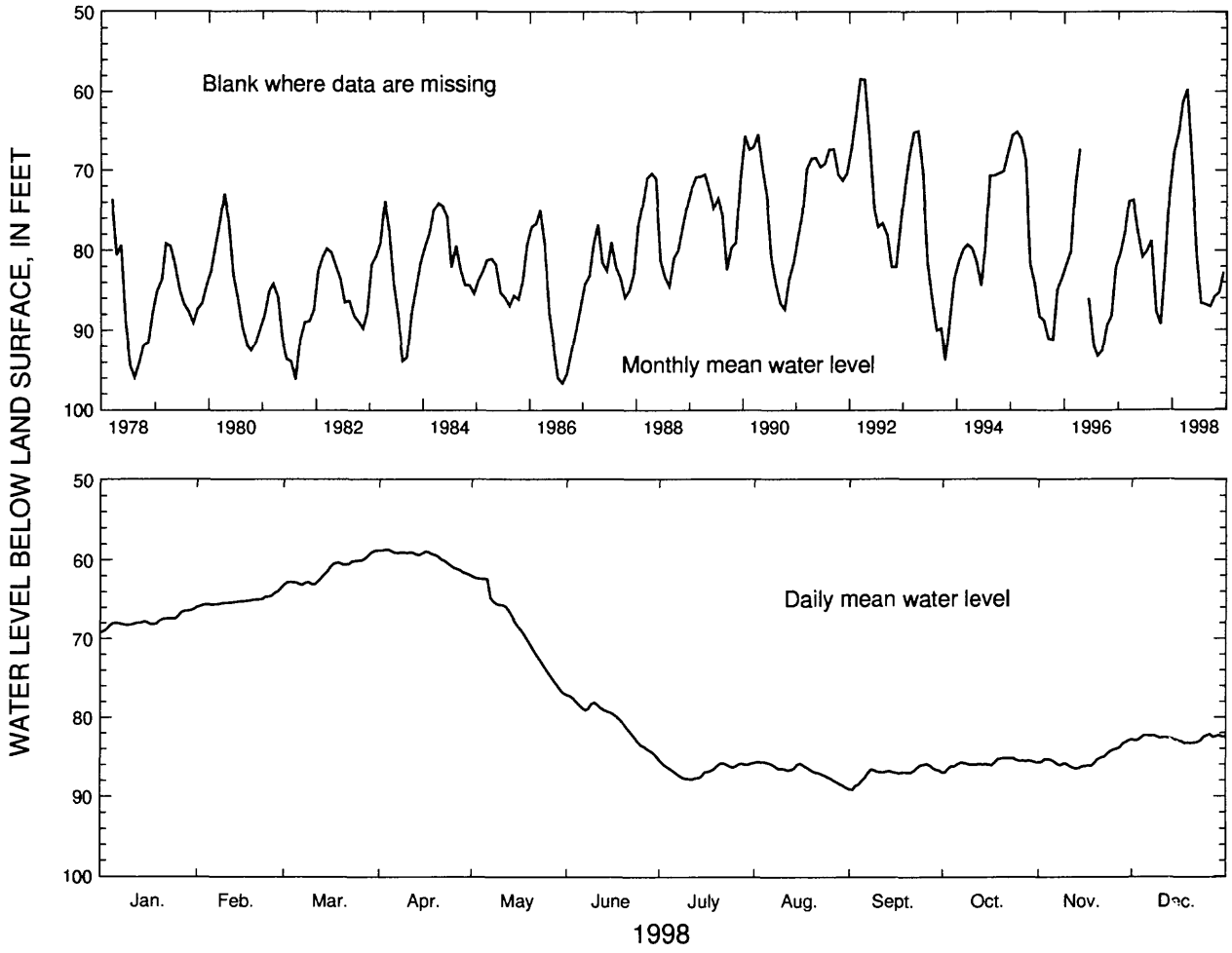


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	35.78	34.89	33.26	33.01	32.98	33.81	35.18	35.08	34.60	34.61	34.66	35.05
MEAN	36.28	35.26	33.88	33.22	33.48	34.70	35.81	35.45	35.05	34.69	35.16	35.26
LOW	36.91	35.78	34.92	33.61	34.30	36.24	36.78	36.26	35.51	34.74	35.79	35.40

SUMMARY FOR 1998 HIGH 32.98 (May 8, 1998) MEAN 34.85 LOW 36.91 (Jan. 1, 1998)

Figure 107. Water level in observation well 11P015, Lee County.

IDENTIFICATION NUMBER.—12L019.
LOCATION.—Lat 31°35'36", long 84°10'30", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 5.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 257 ft, cased to 241 ft, screen from 241 to 257 ft.
DATUM.—Altitude of land-surface datum is 198 ft.
REMARKS.—None.
PERIOD OF RECORD.—March 1978 to current year. Continuous record since March 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 57.31 ft below land-surface datum, April 7, 1992; lowest, 99.53 ft below land-surface datum, August 1-2, 1978.

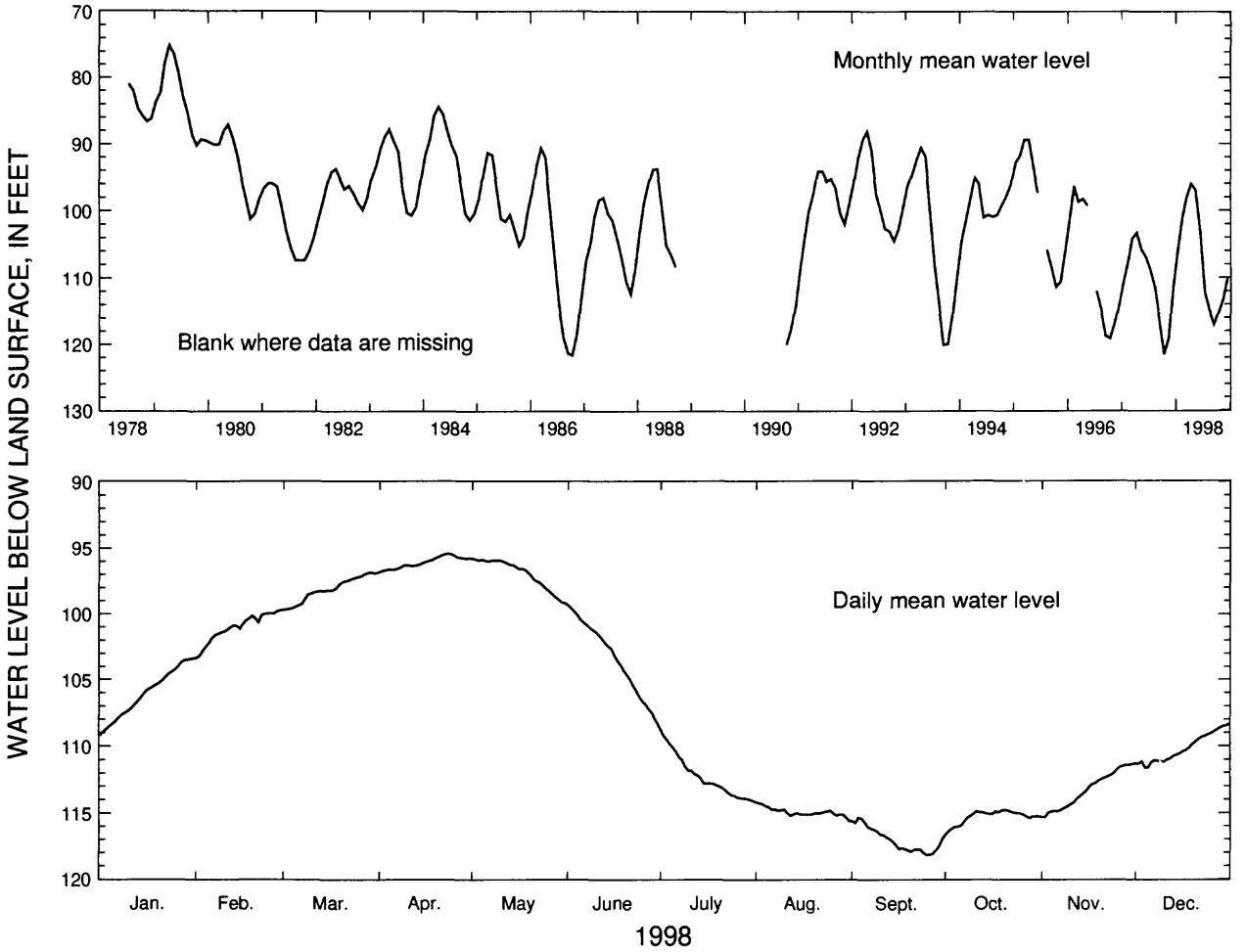


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	66.17	63.56	58.83	58.68	62.05	77.12	85.33	85.64	85.90	85.17	82.96	82.18
MEAN	67.74	65.13	61.34	59.72	68.78	80.40	86.61	86.78	87.05	85.81	85.31	82.72
LOW	69.21	65.90	63.14	61.84	76.93	84.91	87.84	88.92	89.15	86.96	86.54	83.33

SUMMARY FOR 1998 HIGH 58.68 (Apr. 3, 1998) MEAN 76.52 LOW 89.15 (Sept. 2, 1998)

Figure 108. Water level in observation well 12L019, Dougherty County.

IDENTIFICATION NUMBER.—12M001.
LOCATION.—Lat 31°38′13″, long 84°12′50″, Hydrologic Unit 03130007.
SITE NAME.—U.S. Geological Survey, test well 8.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 385 ft, cased to 370 ft, screen from 370 to 385 ft.
DATUM.—Altitude of land-surface datum is 238 ft.
REMARKS.—None.
PERIOD OF RECORD.—July 1978 to current year. Continuous record October 1978 to September 1988 and since October 1990.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 74.77 ft below land-surface datum, April 26, 1979; lowest, 122.30 ft below land-surface datum, October 11, 1986.

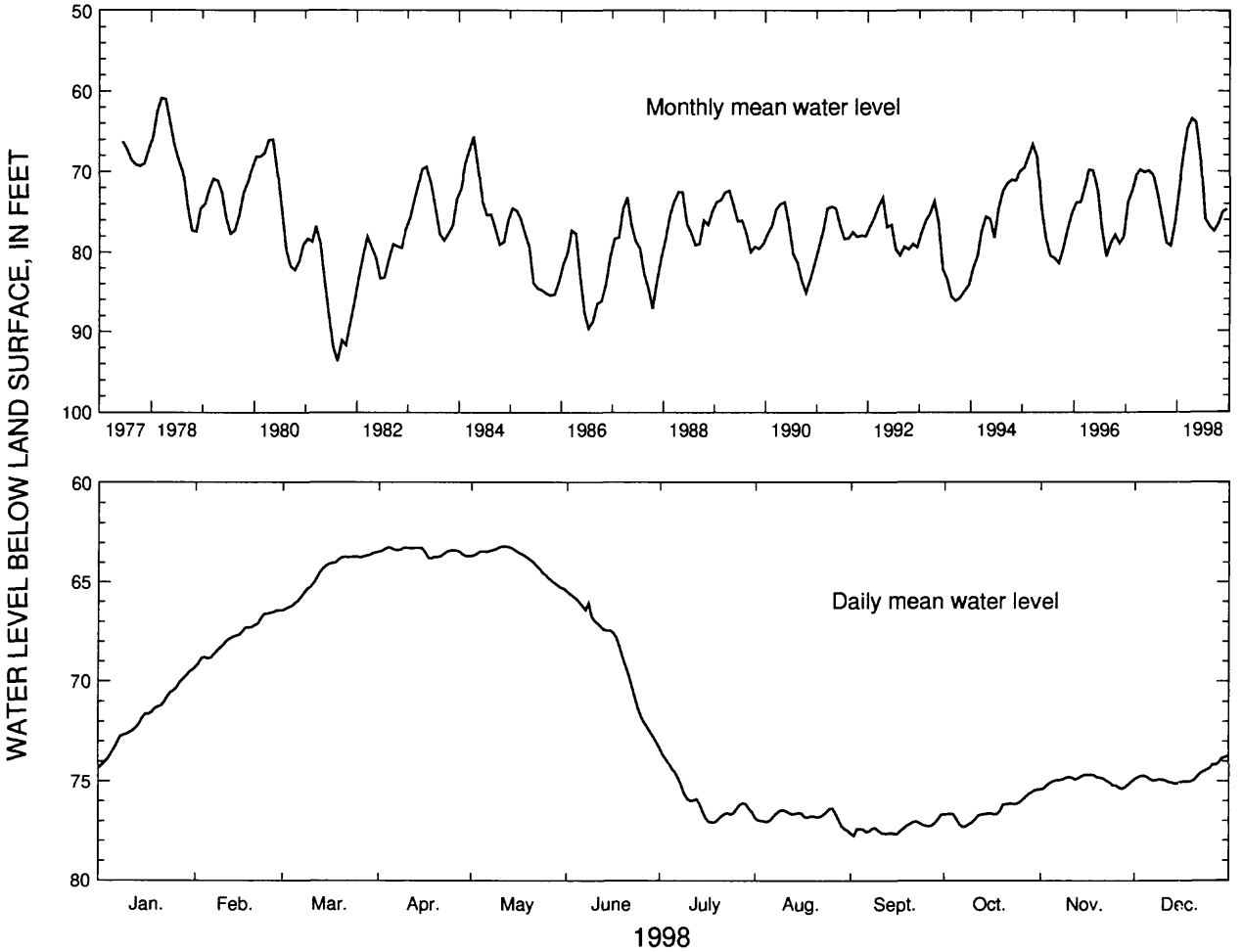


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	103.35	99.73	96.83	95.40	95.77	99.31	108.78	114.20	115.34	114.76	111.35	108.35
MEAN	106.07	101.03	98.12	96.07	96.92	103.38	112.25	114.91	117.04	115.29	113.30	110.16
LOW	109.22	103.31	99.69	96.79	99.15	108.31	114.10	115.59	118.18	116.63	115.32	111.61

SUMMARY FOR 1998 HIGH 95.40 (Apr. 23, 1998) MEAN 107.09 LOW 118.18 (Sept. 25-26, 1998)

Figure 109. Water level in observation well 12M001, Lee County.

IDENTIFICATION NUMBER.—13L011.
LOCATION.—Lat 31°31'05", long 84°06'43", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 418 ft, cased to 398 ft, screen from 398 to 418 ft.
DATUM.—Altitude of land-surface datum is 195 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1977 to current year. Continuous record since June 1977.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 60.01 ft below land-surface datum, April 5, 1978; lowest, 95.00 ft below land-surface datum, August 9-11, 1981.

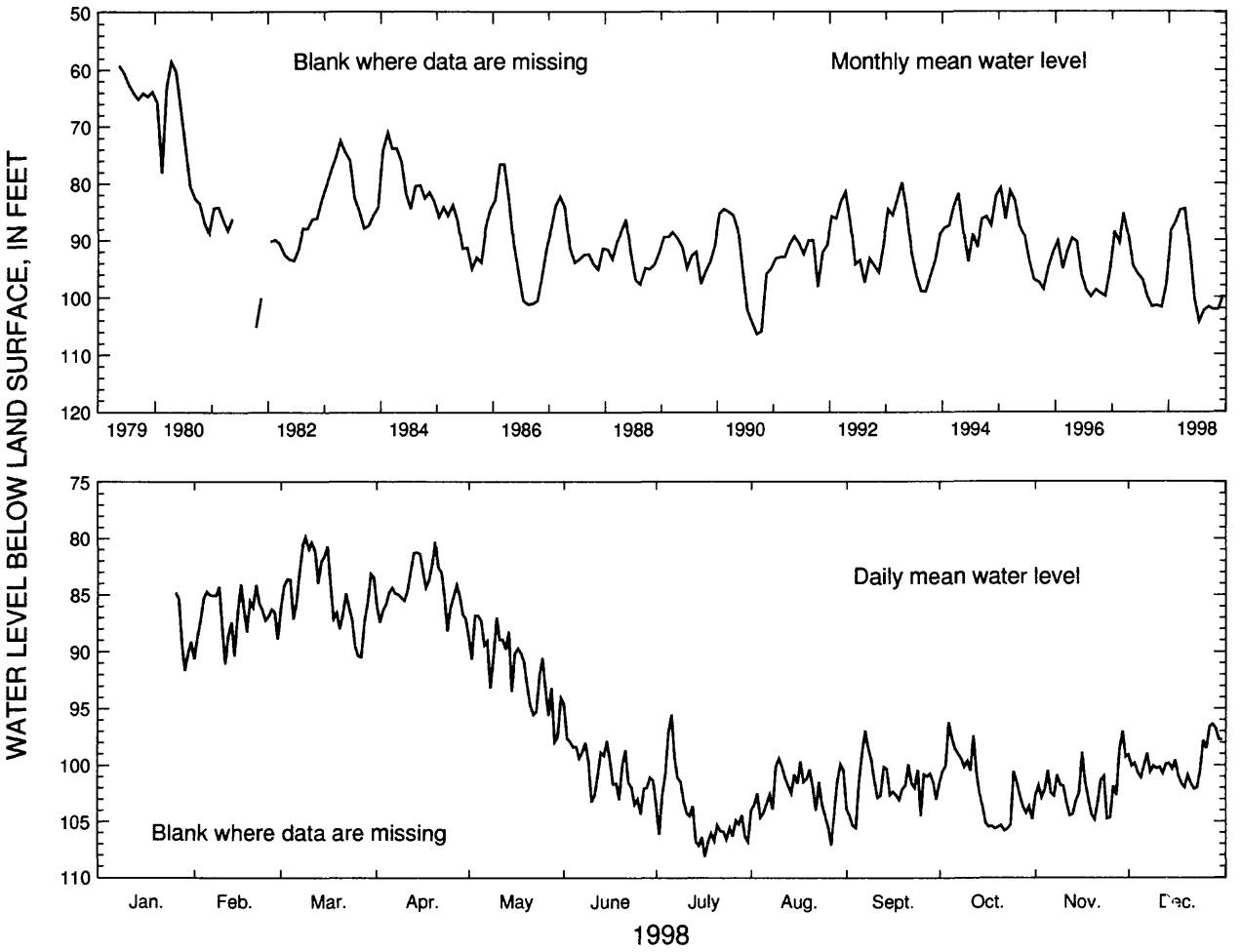


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	69.42	66.44	63.48	63.22	63.17	65.47	73.33	76.37	76.69	75.41	74.67	73.75
MEAN	71.81	67.71	64.57	63.44	63.90	68.53	75.86	76.77	77.36	76.46	74.99	74.69
LOW	74.32	69.29	66.44	63.78	65.34	73.04	77.06	77.49	77.74	77.31	75.40	75.13

SUMMARY FOR 1998 HIGH 63.17 (May 11-12, 1998) MEAN 71.37 LOW 77.74 (Sept. 2, 1998)

Figure 110. Water level in observation well 13L011, Dougherty County.

IDENTIFICATION NUMBER.—13L015.
LOCATION.—Lat 31°36'25", long 84°04'15", Hydrologic Unit 03130006.
SITE NAME.—Miller Brewing Company.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 351 ft, screen from 268 to 288 ft, 302 to 313 ft, and 343 to 350 ft.
DATUM.—Altitude of land-surface datum is 200 ft.
REMARKS.—Water-level data for period, January 1-25, 1998, are missing.
PERIOD OF RECORD.—May 1979 to current year. Continuous record since May 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 58.02 ft below land-surface datum, May 1-2, 1990; lowest, 111.33 ft below land-surface datum, September 14, 1990.

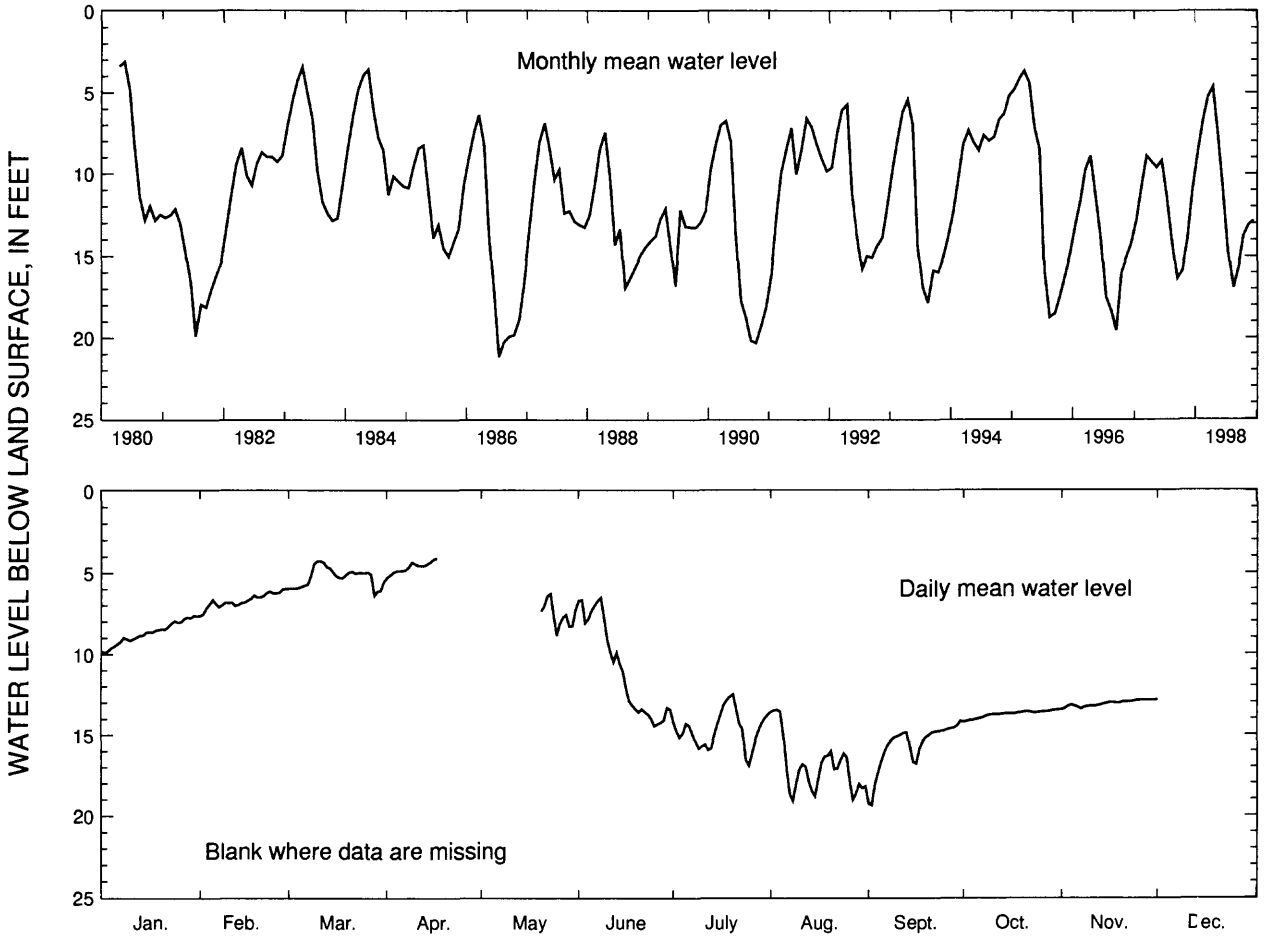


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	84.05	79.86	80.31	86.83	94.59	95.52	99.41	96.95	96.21	97.00	98.40
MEAN	------	86.78	84.69	84.45	91.38	100.37	104.35	102.36	101.75	102.20	102.15	99.82
LOW	------	91.07	90.46	88.19	97.96	104.33	108.15	107.13	105.58	105.83	104.82	102.11

SUMMARY FOR 1998 HIGH 79.86 (Mar. 9, 1998) MEAN 96.32 LOW 108.15 (July 17, 1998)

Figure 111. Water level in observation well 13L015, Dougherty County.

IDENTIFICATION NUMBER.—13M005.
LOCATION.—Lat 31°43'30", long 84°00'54", Hydrologic Unit 03130006.
SITE NAME.—U.S. Geological Survey, test well DP-7.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 345 ft, cased to 330 ft, screen from 330 to 345 ft.
DATUM.—Altitude of land-surface datum is 230 ft.
REMARKS.—Water-level data for periods, April 18 to May 19 and December 2-31, 1998, are missing.
PERIOD OF RECORD.—April 1980 to current year. Continuous record since April 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 2.89 ft below land-surface datum, May 29, 198C; lowest, 23.90 ft below land-surface datum, August 19, 1995.

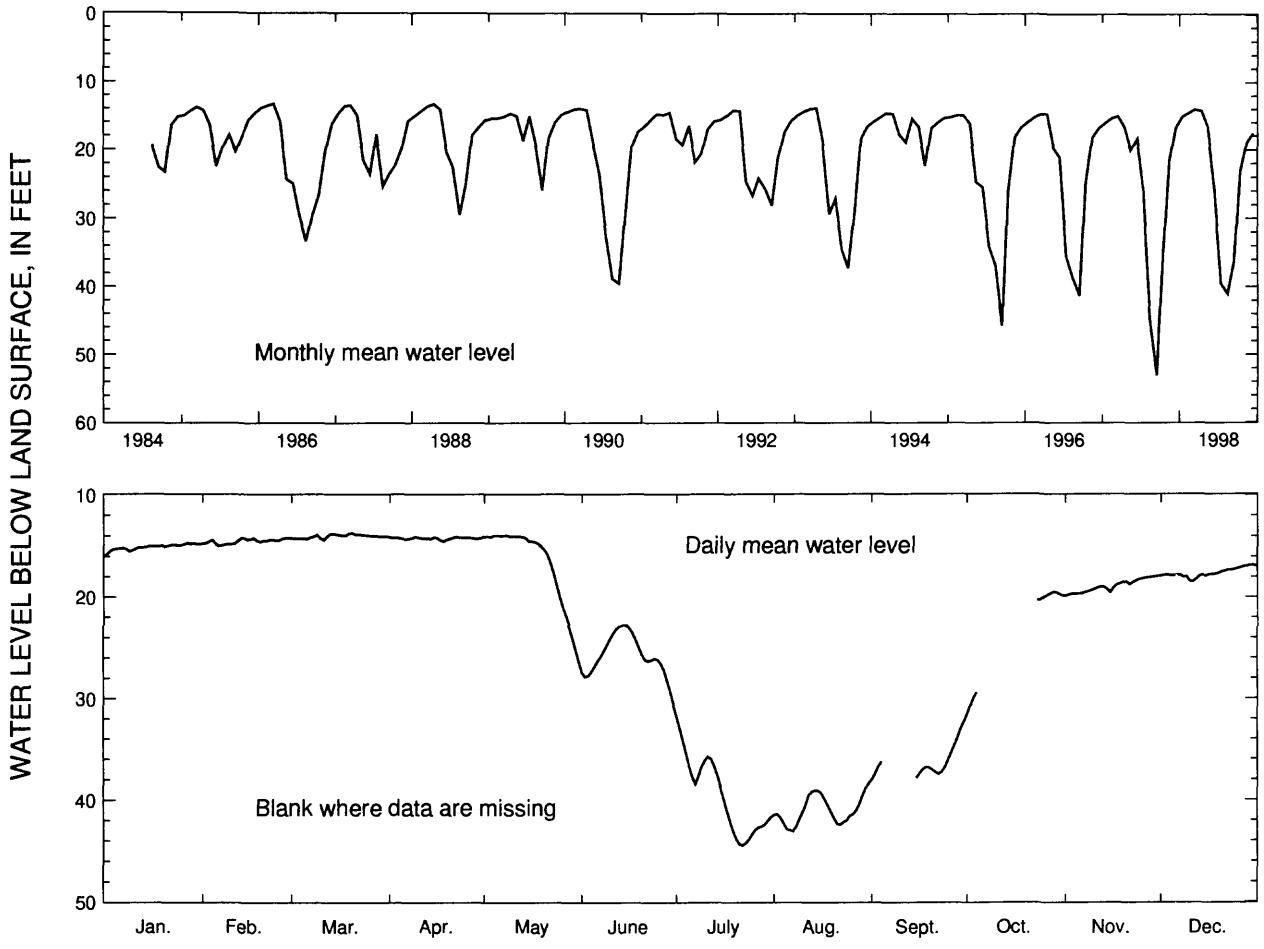


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	7.64	5.99	4.27	------	------	6.52	12.51	13.46	14.15	13.46	12.86	------
MEAN	8.68	6.68	5.26	------	------	10.98	14.69	16.93	15.66	13.75	13.09	------
LOW	9.90	7.63	6.39	------	------	14.43	16.90	19.10	19.36	14.20	13.45	------

SUMMARY FOR 1998 HIGH 4.11 (Apr. 17, 1998) MEAN 11.22 LOW 19.36 (Sept. 2, 1998)

Figure 112. Water level in observation well 13M005, Worth County.

IDENTIFICATION NUMBER.—14P015.
LOCATION.—Lat 31°57'31", long 83°54'23", Hydrologic Unit 03130006.
SITE NAME.—Georgia Geologic Survey, Veterans Memorial State Park, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.— Claiborne.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 340 ft, cased to 240 ft, screen from 240 to 340 ft.
DATUM.—Altitude of land-surface datum is 252 ft.
REMARKS.—Water-level data for periods, Septemer 5-14 and October 5-22, 1998, are missing.
PERIOD OF RECORD.—August 1984 to current year. Continuous record since August 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 11.13 ft below land-surface datum, July 10, 1994; lowest, 54.47 ft below land-surface datum, September 26, 1997, but may have been lower during period of missing record, September 6-25, 1997.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	14.69	14.19	13.71	14.06	13.94	22.76	31.78	38.37	------	------	17.95	16.85
MEAN	15.09	14.50	14.01	14.20	16.62	25.77	39.59	41.05	------	------	18.91	17.63
LOW	16.04	14.95	14.38	14.50	26.38	30.62	44.44	43.07	------	------	19.86	18.49

SUMMARY FOR 1998 HIGH 13.71 (Mar. 20, 1998) MEAN 22.74 LOW 44.44 (July 22, 1998)

Figure 113. Water level in observation well 14P015, Crisp County.

Clayton Aquifer

The water level in the Clayton aquifer was monitored in 11 wells in 1998 and data from these wells (fig. 114) are summarized in figures 115-125. Water levels in wells tapping the aquifer are affected by seasonal variations in local and regional pumping (Hicks and others, 1981).

Base modified from U.S.Geological Survey
State base map

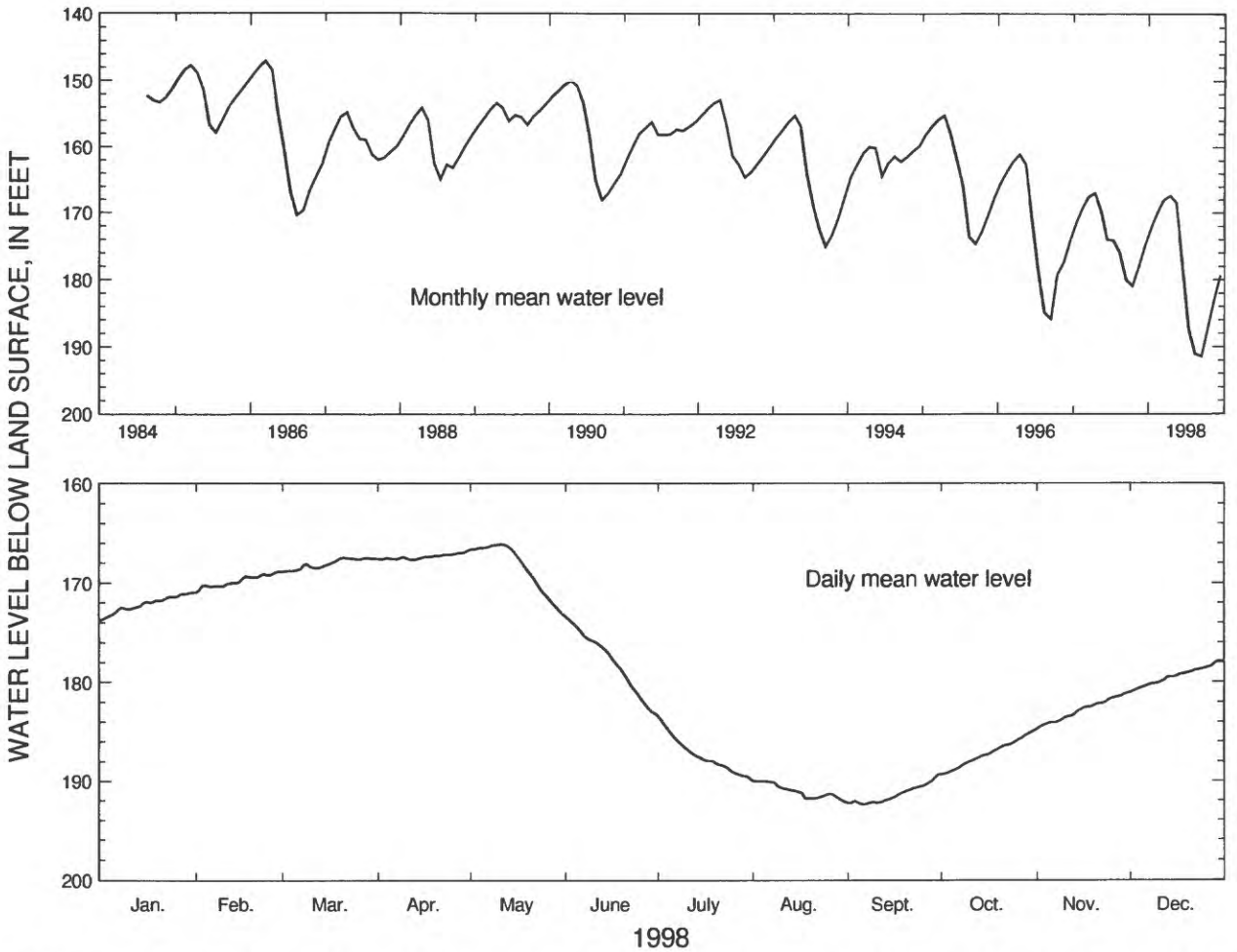
EXPLANATION

CLAIBORNE AND CLAYTON AQUIFERS

11K005 OBSERVATION WELL IN CLAYTON AQUIFER AND IDENTIFICATION NUMBER

Figure 114. Location of observation wells completed in Clayton aquifer.

IDENTIFICATION NUMBER.—06K009.
LOCATION.—Lat 31°28′24″, long 84°55′12″, Hydrologic Unit 03130004.
SITE NAME.—Georgia Geologic Survey, Kolomoki Mounds State Park, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 612 ft, cased to 491 ft, open hole.
DATUM.—Altitude of land-surface datum is 310 ft.
REMARK.—None.
PERIOD OF RECORD.—August 1984 to current year. Continuous record since August 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 146.62 ft below land-surface datum, April 3, 1986; lowest,192.39 ft below land-surface datum, September 6, 1998.

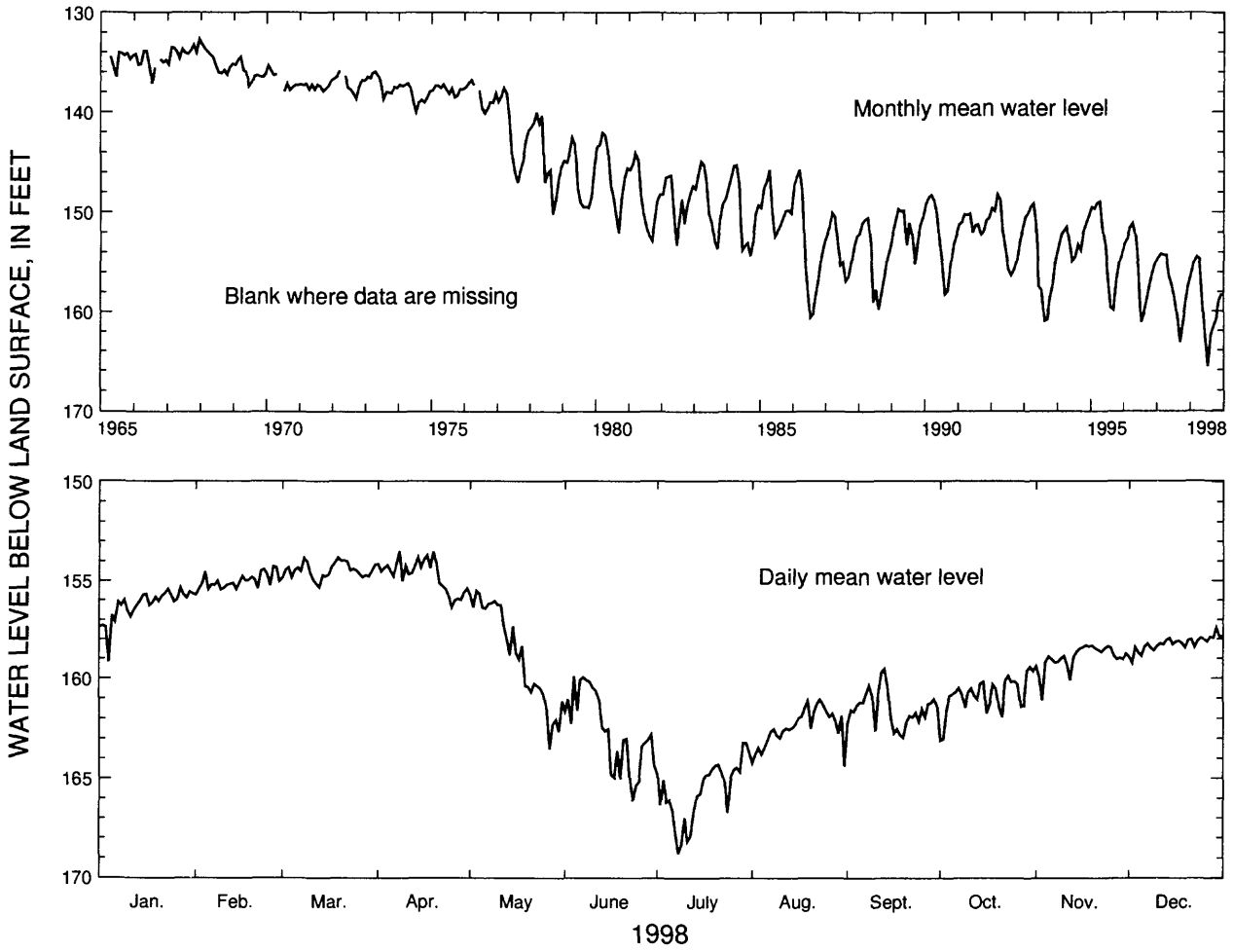


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	170.95	168.83	167.46	166.76	166.09	173.38	183.36	189.98	189.37	184.91	181.10	177.85
MEAN	172.14	169.77	168.05	167.35	168.40	177.90	187.32	191.05	191.41	187.25	182.86	179.39
LOW	173.78	170.92	168.82	167.66	173.12	183.12	189.73	192.16	192.39	189.35	184.72	181.02

SUMMARY FOR 1998 HIGH 166.09 (May 11, 1998) MEAN 178.63 LOW 192.39 (Sept. 6, 1998)

Figure 115. Water level in observation well 06K009, Early County.

IDENTIFICATION NUMBER.—07N001.
LOCATION.—Lat 31°46′09″, long 84°47′43″, Hydrologic Unit 03110204.
SITE NAME.—City of Cuthbert.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled unused municipal well, diameter 8 in., depth 372 ft, casing depth unknown.
DATUM.—Altitude of land-surface datum is 460 ft.
REMARKS.—Located near city supply wells.
PERIOD OF RECORD.—January 1965 to current year. Continuous record since January 1965.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 132.00 ft below land-surface datum, December 10, 31, 1967; lowest, 168.78 ft below land-surface datum, July 8, 1998.

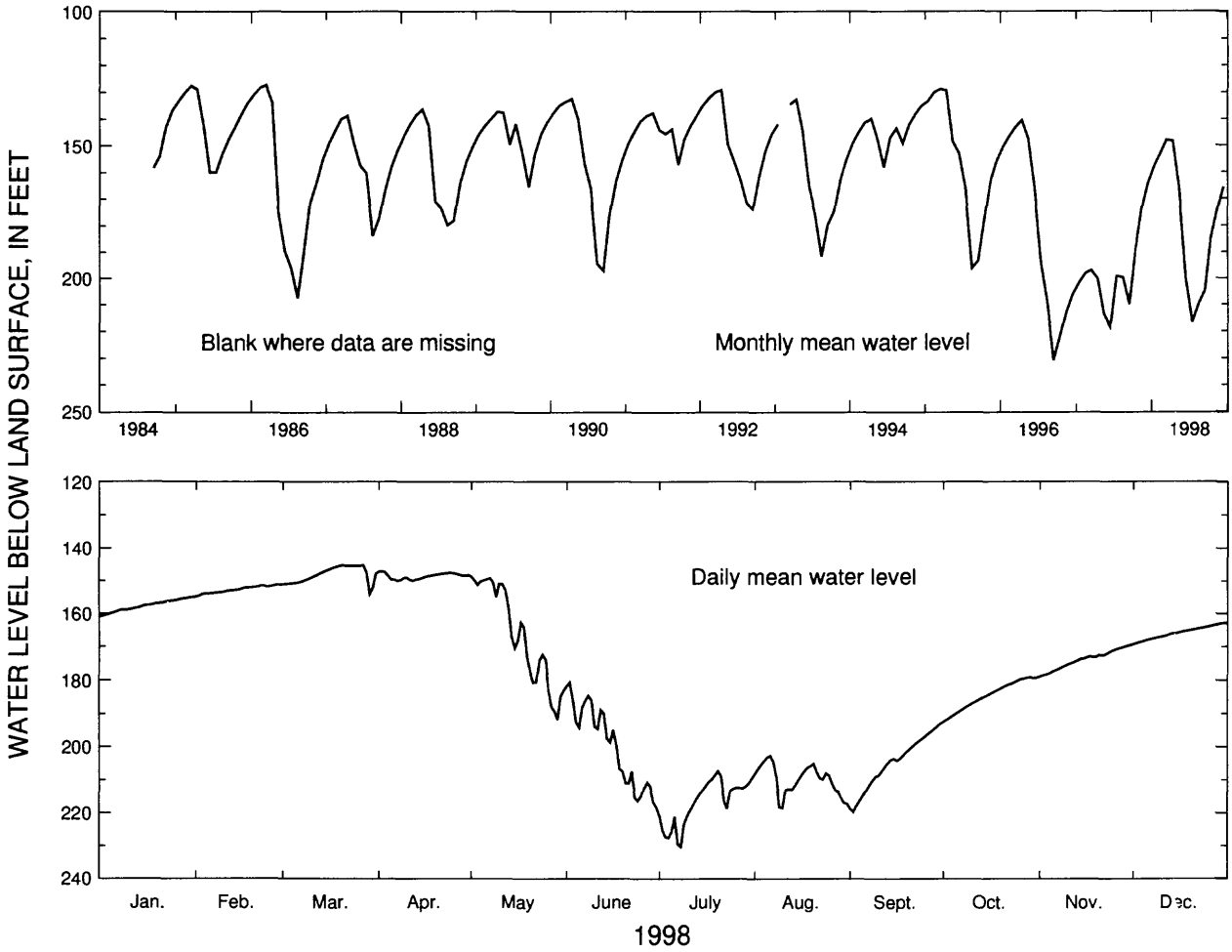


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	155.35	154.26	153.80	153.49	155.51	159.89	163.20	161.07	159.52	159.43	158.32	157.42
MEAN	156.25	155.02	154.47	154.71	158.74	162.64	165.63	162.45	161.52	160.84	158.94	158.25
LOW	159.17	155.71	155.33	156.36	163.52	166.11	168.78	164.38	162.96	163.10	161.11	159.22

SUMMARY FOR 1998 HIGH 153.49 (Apr. 8, 1998) MEAN 159.15 LOW 168.78 (July 8, 1998)

Figure 116. Water level in observation well 07N001, Randolph County.

IDENTIFICATION NUMBER.—09M007.
LOCATION.—Lat 31°39′52″, long 84°36′12″, Hydrologic Unit 03130009.
SITE NAME.—C.T. Martin, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 430 ft, cased to 356 ft, open hole.
DATUM.—Altitude of land-surface datum is 322 ft.
REMARKS.—None.
PERIOD OF RECORD.—September 1984 to current year. Continuous record since September 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 126.55 ft below land-surface datum, March 27, 1986; lowest, 237.64 ft below land-surface datum, September 25, 1996, but may have been lower during period of missing record.

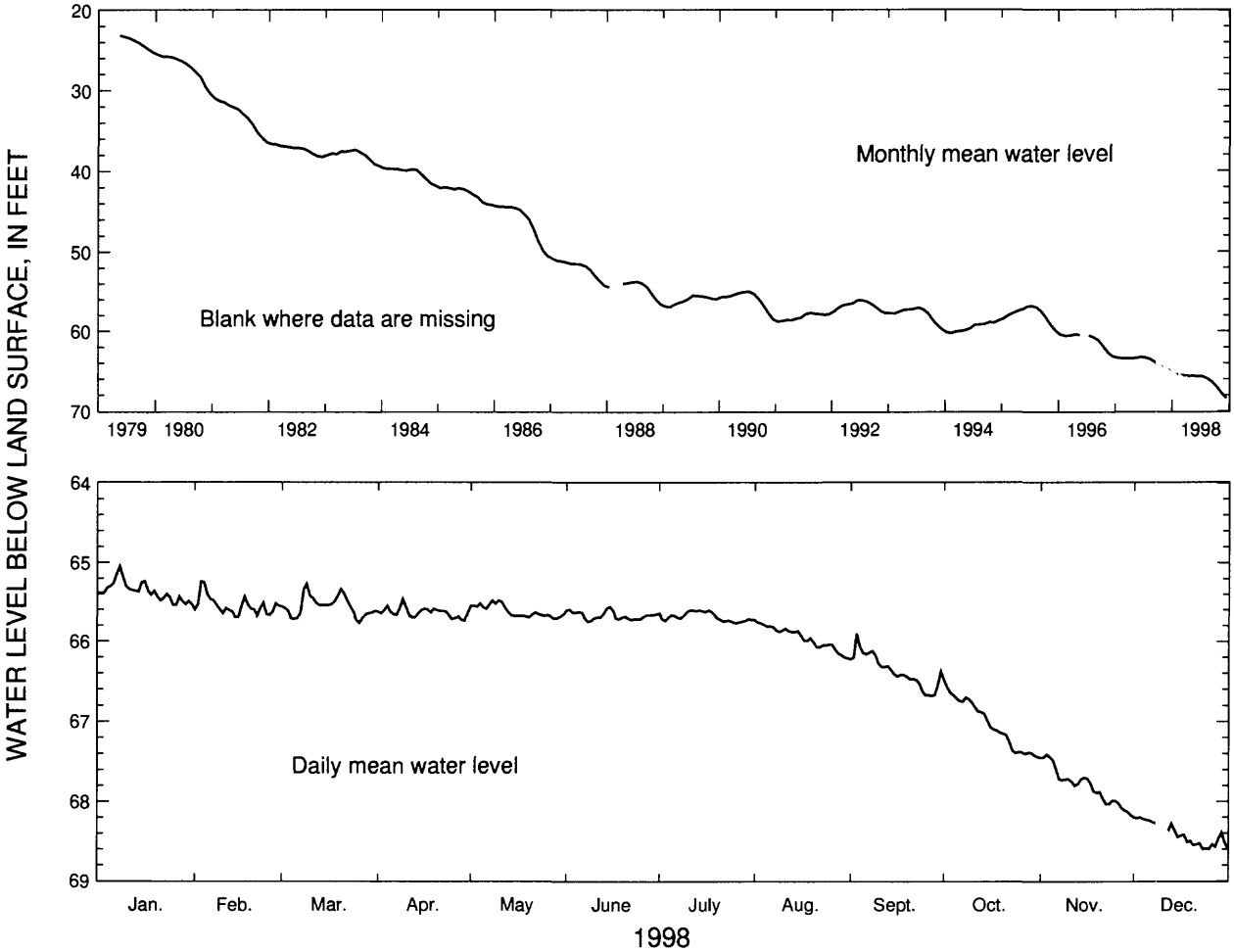


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	155.02	151.16	145.17	147.00	148.60	180.57	207.42	202.71	193.02	179.12	169.51	162.81
MEAN	157.71	152.75	148.03	148.45	166.13	199.92	216.76	209.88	204.82	184.55	173.89	165.74
LOW	160.94	154.89	154.09	149.89	191.77	218.13	230.35	218.43	219.68	192.44	178.98	169.26

SUMMARY FOR 1998 HIGH 145.17 (Mar. 27, 1998) MEAN 177.54 LOW 230.35 (July 8, 1998)

Figure 117. Water level in observation well 09M007, Randolph County.

IDENTIFICATION NUMBER.—11K005.
LOCATION.—Lat 31°26'54", long 84°21'01", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 12.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 690 ft, cased to 630 ft, open hole.
DATUM.—Altitude of land-surface datum is 183 ft.
REMARKS.—None.
PERIOD OF RECORD.—May 1979 to current year. Continuous record since May 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 23.03 ft below land-surface datum, May 24, 1979; lowest, 68.60 ft below land-surface datum, December 25, 1998.

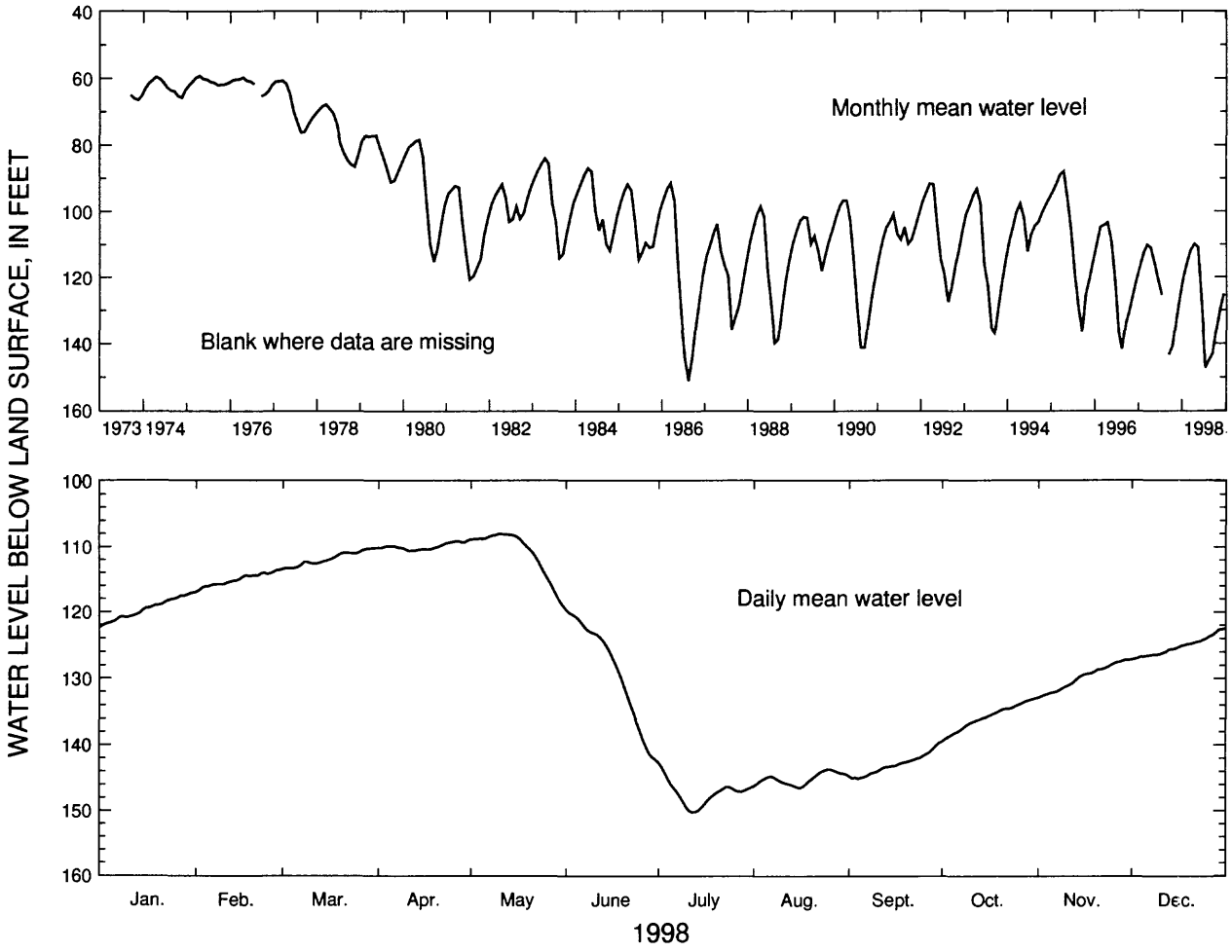


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	65.05	65.24	65.27	65.46	65.48	65.56	65.61	65.73	65.90	66.48	67.41	68.20
MEAN	65.37	65.55	65.56	65.64	65.62	65.68	65.69	65.95	66.37	67.02	67.80	68.41
LOW	65.54	65.70	65.77	65.74	65.71	65.75	65.77	66.21	66.68	67.44	68.17	68.60

SUMMARY FOR 1998 HIGH 65.05 (Jan. 8, 1998) MEAN 66.23 LOW 68.60 (Dec. 25, 1998)

Figure 118. Water level in observation well 11K005, Dougherty County.

IDENTIFICATION NUMBER.—11L002.
LOCATION.—Lat 31°35′32″, long 84°20′35″, Hydrologic Unit 03130008.
SITE NAME.—Georgia Geologic Survey, Albany Nursery.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 3 in., depth 656 ft, cased to 542 ft, open hole.
DATUM.—Altitude of land-surface datum is 222 ft.
REMARKS.—None.
PERIOD OF RECORD.—September 1973 to current year. Continuous record since September 1973.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 58.90 ft below land-surface datum, April 29, 1975; lowest,152.61 ft below land-surface datum, August 23, 1986.

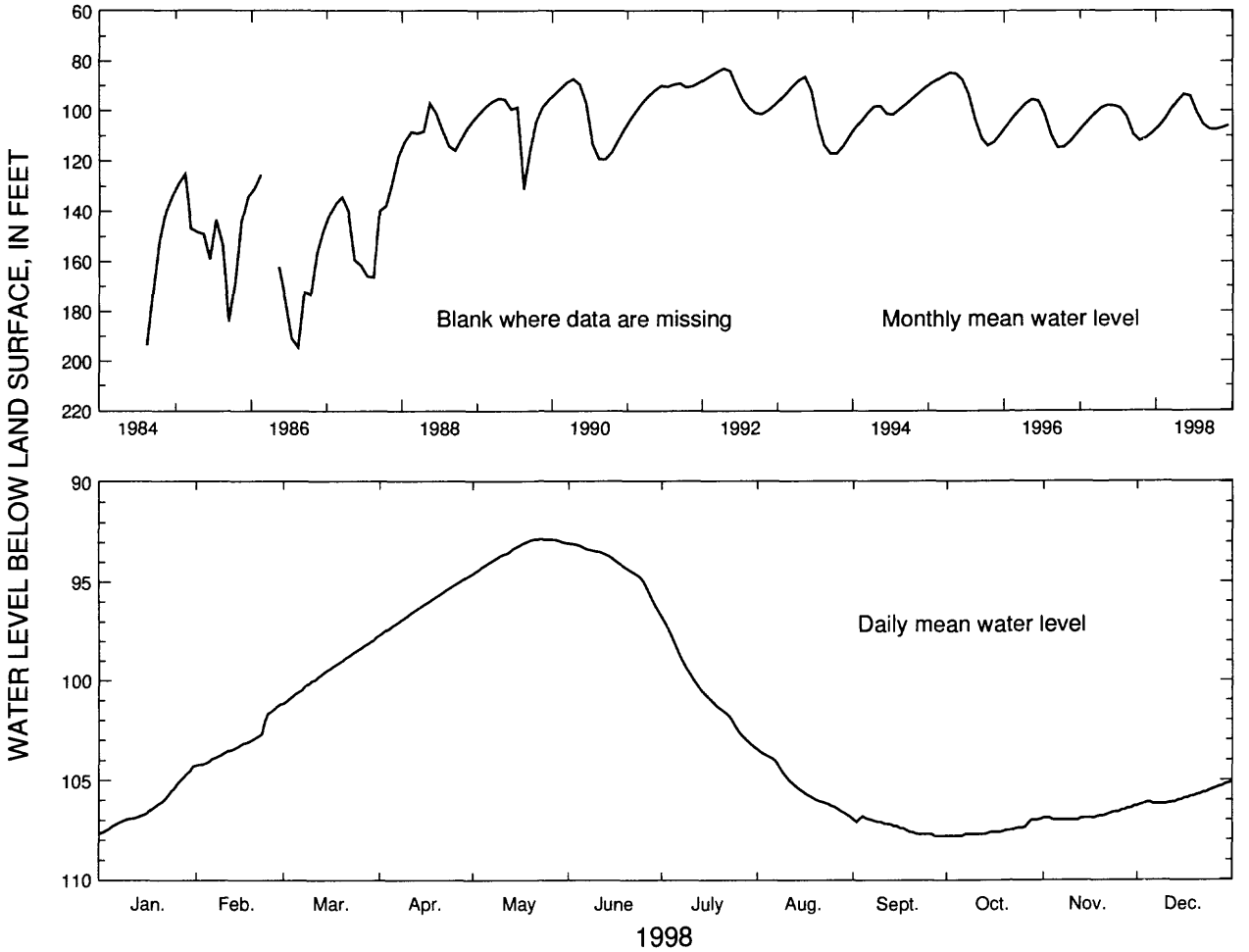


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	117.06	113.56	110.14	109.02	108.05	119.65	142.65	143.69	139.70	132.99	127.16	122.50
MEAN	119.61	115.05	111.81	109.93	110.90	128.83	147.26	145.11	143.04	135.80	129.85	125.18
LOW	122.34	116.93	113.40	110.60	119.10	142.21	150.21	146.53	145.08	139.49	132.86	127.12

SUMMARY FOR 1998 HIGH 108.05 (May 10-11, 1998) MEAN 126.95 LOW 150.21 (July 12, 1998)

Figure 119. Water level in observation well 11L002, Dougherty County.

IDENTIFICATION NUMBER.—11P014.
LOCATION.—Lat 31°53′51″, long 84°19′24″, Hydrologic Unit 03130007.
SITE NAME.—Pete Long, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 384 ft, cased to 332 ft, open hole.
DATUM.—Altitude of land-surface datum is 338 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1984 to current year. Continuous record since August 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 82.38 ft below land-surface datum, May 2-3, 1992; lowest, 212.89 ft below land-surface datum, August 9, 1986.

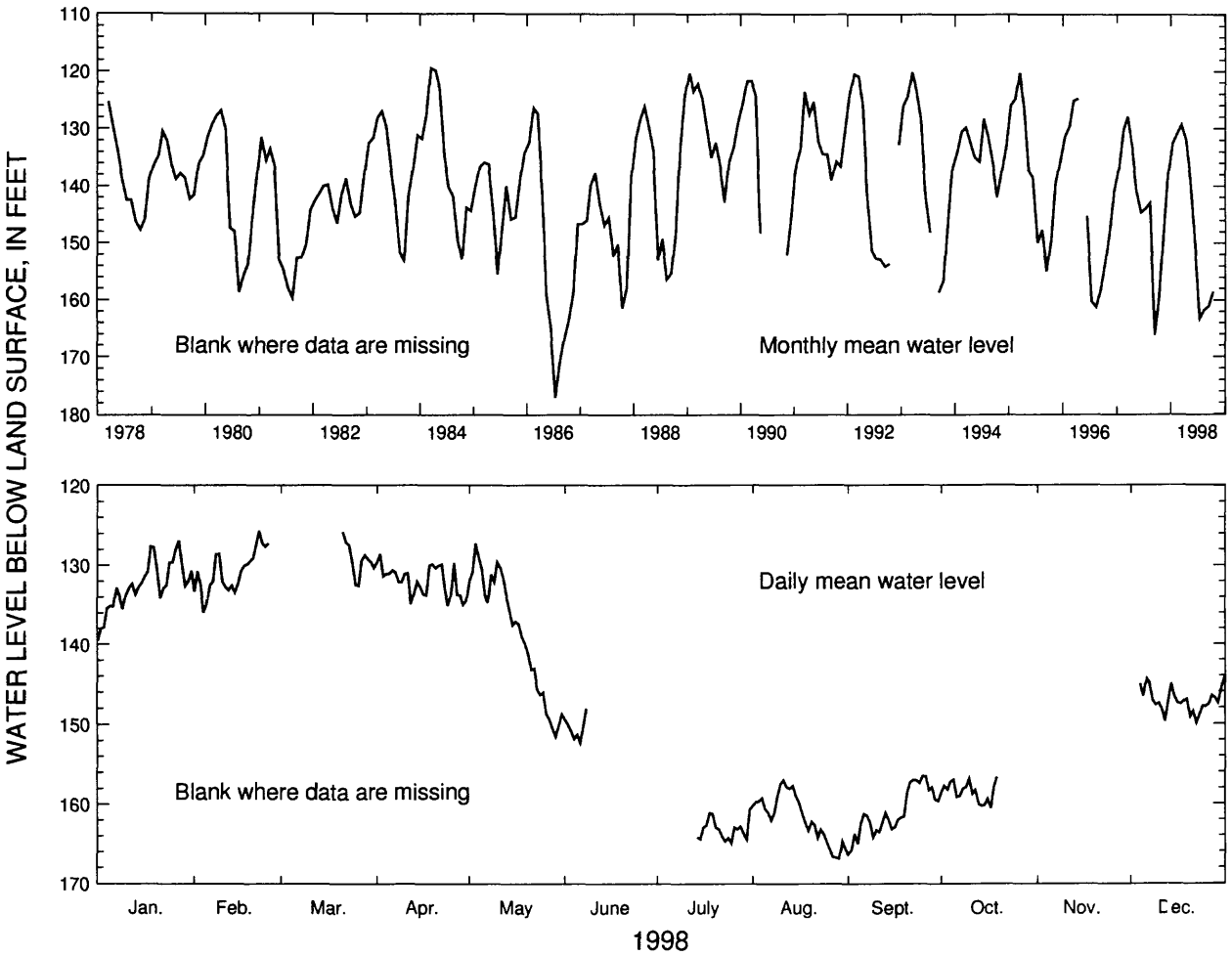


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	104.31	101.20	97.78	94.68	92.84	93.06	96.78	103.47	106.81	106.97	106.31	105.10
MEAN	106.34	103.11	99.43	96.15	93.40	94.14	100.54	105.34	107.37	107.54	106.80	105.83
LOW	107.66	104.26	101.16	97.68	94.59	96.51	103.36	106.84	107.80	107.80	107.00	106.30

SUMMARY FOR 1998 HIGH 92.84 (May 23, 1998) MEAN 102.17 LOW 107.80 (Sept. 27 to Oct. 6, 1998)

Figure 120. Water level in observation well 11P014, Lee County.

IDENTIFICATION NUMBER.—12L020.
LOCATION.—Lat 31°35'34", long 84°10'30", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 6.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 690 ft, cased to 619 ft, open hole.
DATUM.—Altitude of land-surface datum is 195 ft.
REMARKS.—Water-level data for periods, February 26 to March 20, June 9 to July 13, and October 20 to December 3, 1998, are missing.
PERIOD OF RECORD.—March 1978 to current year. Continuous record since March 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 115.60 ft below land-surface datum, March 21, 1995; lowest, 180.74 ft below land-surface datum, July 23, 1986.

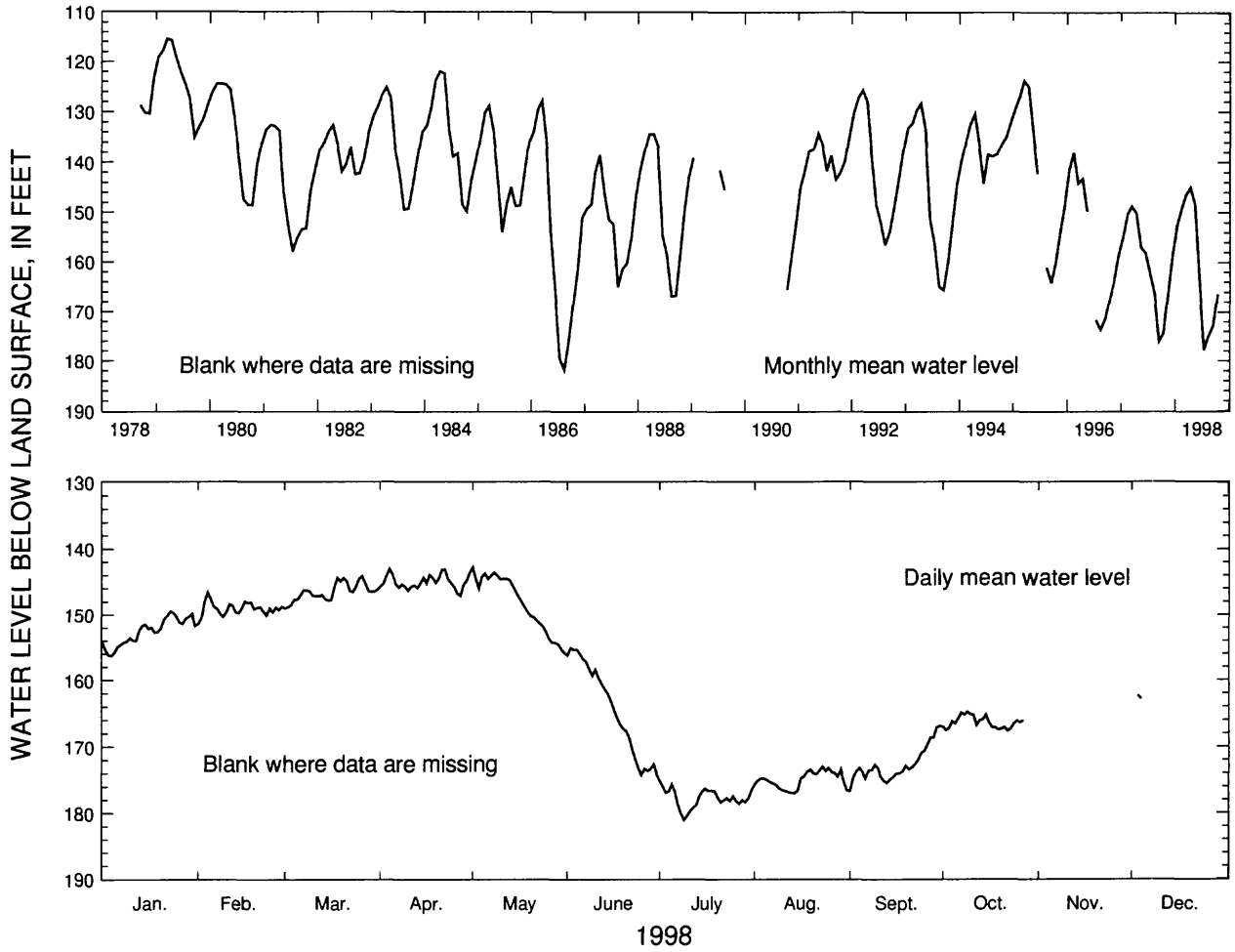


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	126.91	125.66	------	128.56	127.25	------	------	157.02	156.55	------	------	144.04
MEAN	132.53	130.79	------	131.94	138.64	------	------	161.78	161.09	------	------	147.12
LOW	139.51	135.96	------	135.06	151.58	------	------	166.93	166.39	------	------	149.93

SUMMARY FOR 1998 HIGH 125.66 (Feb. 22, 1998) MEAN 145.72 LOW 166.93 (Aug. 29, 1998)

Figure 121. Water level in observation well 12L020, Dougherty County.

IDENTIFICATION NUMBER.—12M002.
LOCATION.—Lat 31°38'12", long 84°12'50", Hydrologic Unit 03130007.
SITE NAME.—U.S. Geological Survey, test well 9.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 650 ft, cased to 567 ft, open hole.
DATUM.—Altitude of land-surface datum is 230 ft.
REMARKS.—Water-level data for periods, October 28 to December 2 and December 5-31, 1998, are missing.
PERIOD OF RECORD.—September 1978 to current year. Continuous record September 1978 to September 1988 and since October 1990.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 114.79 ft below land-surface datum, March 14, 1979; lowest, 186.62 ft below land-surface datum, July 23, 1986.

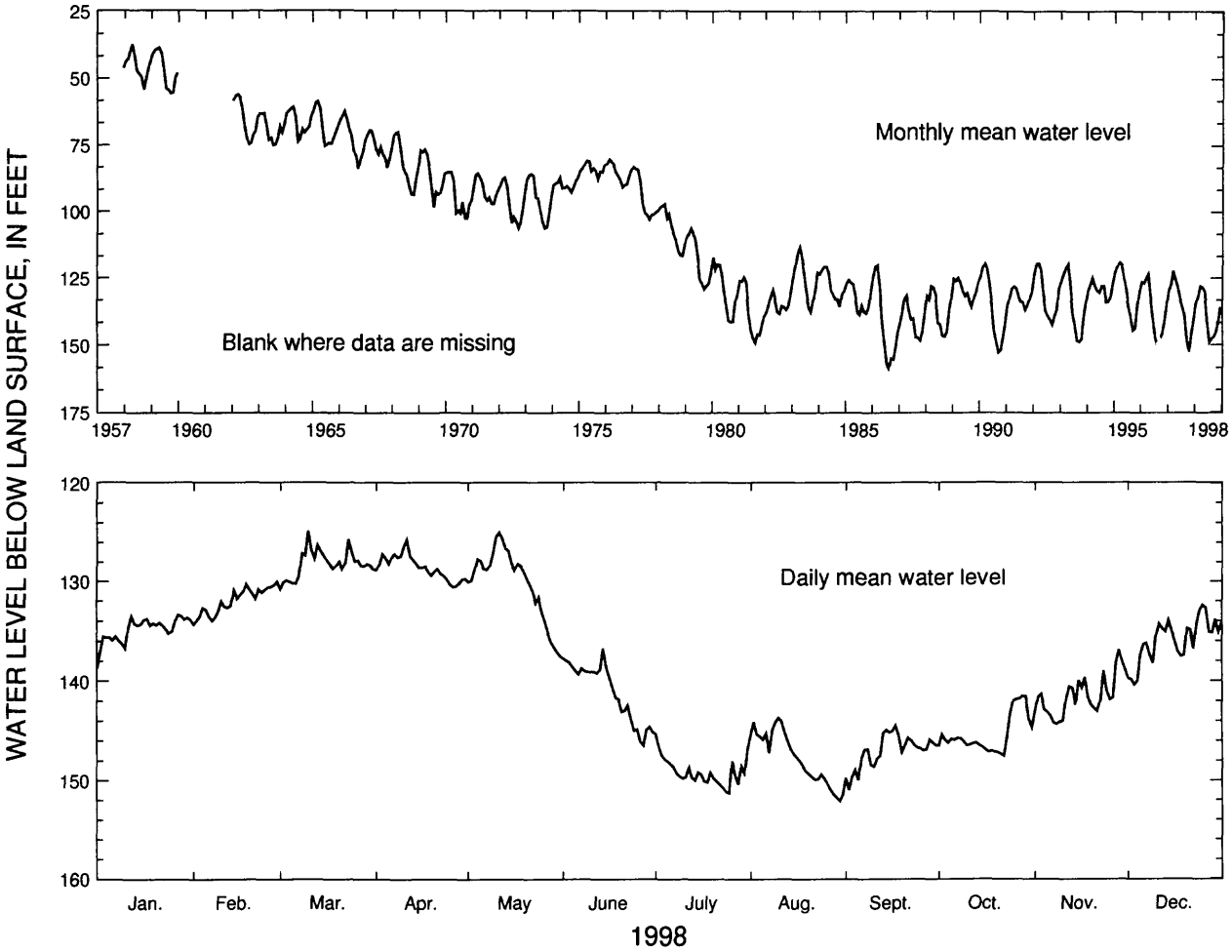


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	149.46	146.57	144.11	143.05	142.79	155.17	175.11	173.06	167.00	164.85	------	------
MEAN	152.57	149.03	146.49	144.99	148.29	164.41	177.76	175.00	172.81	166.42	------	------
LOW	156.31	151.39	148.96	147.08	155.89	174.27	181.04	176.98	176.70	167.68	------	------

SUMMARY FOR 1998 HIGH 142.79 (May 1, 1998) MEAN 159.81 LOW 181.04 (July 9, 1998)

Figure 122. Water level in observation well 12M002, Lee County.

IDENTIFICATION NUMBER.—13L002.
LOCATION.—Lat 31°35'51", long 84°06'24", Hydrologic Unit 03130008.
SITE NAME.—Albany Water, Gas, and Light Commission, Turner City 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 12 in., depth 760 ft, cased to 713 ft, open hole.
DATUM.—Altitude of land-surface datum is 212.8 ft.
REMARKS.—None.
PERIOD OF RECORD.—December 1957 to current year. Continuous record December 1957 to December 1959, and since January 1962.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 38.19 ft below land-surface datum, April 1, 1959; lowest, 160.88 ft below land-surface datum, July 26, 1986.

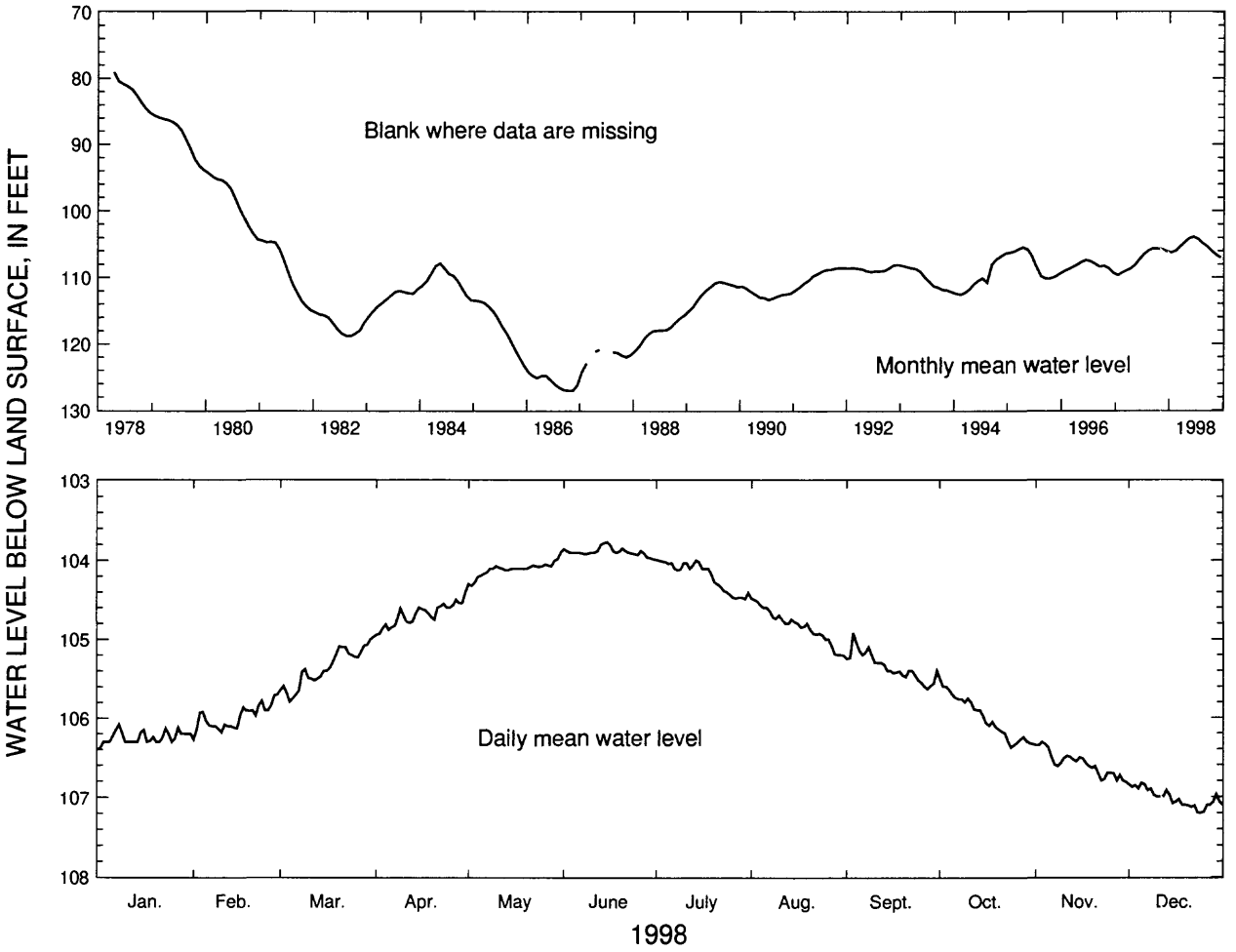


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	133.36	130.04	124.81	125.70	124.99	136.71	145.31	143.68	144.45	141.49	136.84	132.41
MEAN	134.87	131.95	128.16	128.54	130.11	141.06	149.11	147.74	147.03	145.41	141.48	135.94
LOW	138.71	134.32	130.76	130.57	137.48	146.46	151.24	152.08	150.97	147.52	144.30	140.39

SUMMARY FOR 1998 HIGH 124.81 (Mar. 10, 1998) MEAN 138.49 LOW 152.08 (Aug. 30, 1998)

Figure 123. Water level in observation well 13L002, Dougherty County.

IDENTIFICATION NUMBER.—13L013.
LOCATION.—Lat 31°31'05", long 84°06'42", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 7.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 882 ft, cased to 716 ft, open hole.
DATUM.—Altitude of land-surface datum is 195 ft.
REMARKS.—None.
PERIOD OF RECORD.—April 1978 to current year. Continuous record since July 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 79.01 ft below land-surface datum, May 2, 1978; lowest, 127.24 ft below land-surface datum, September 29, 1986.

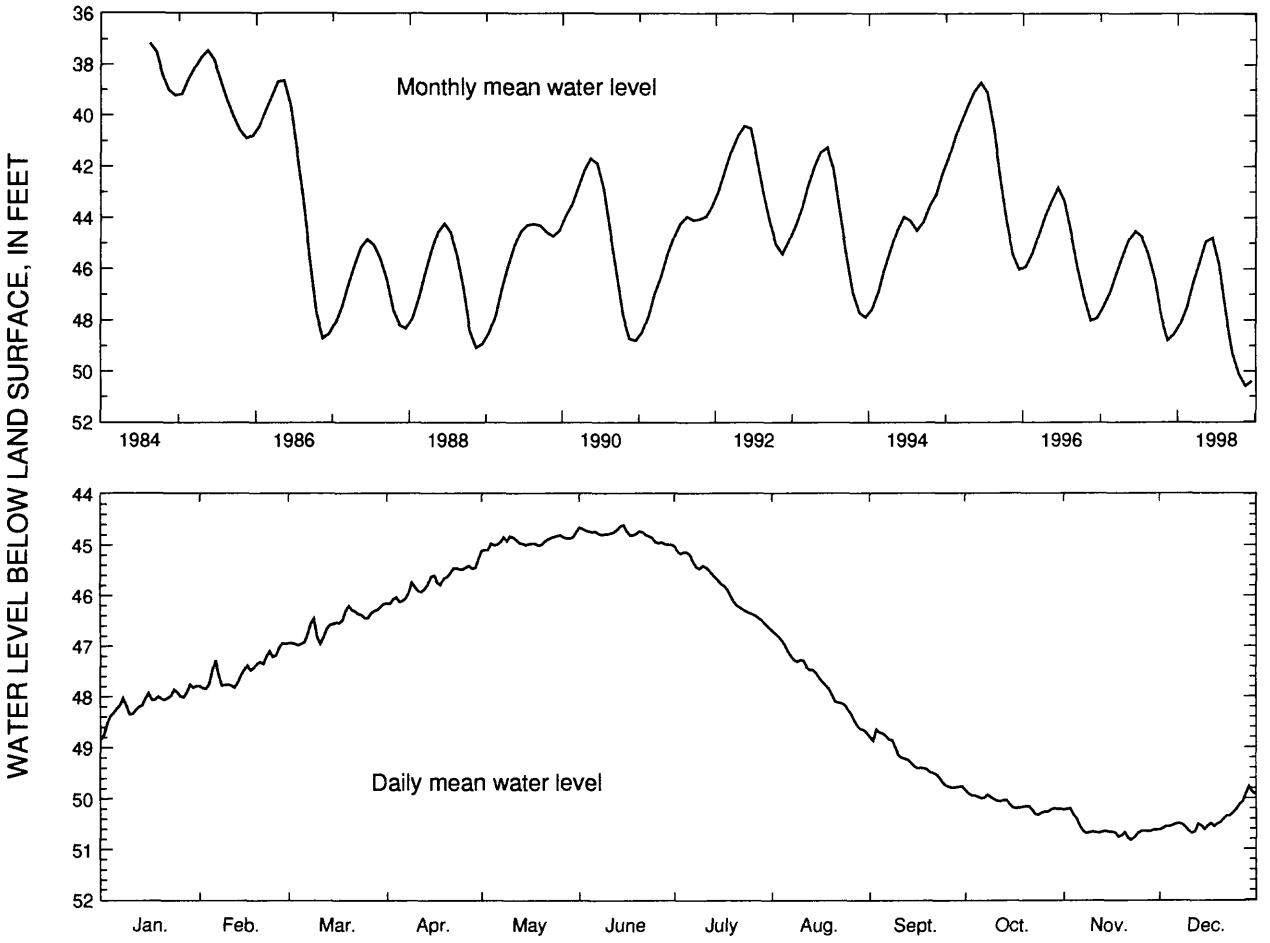


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	106.08	105.70	104.97	104.40	103.90	103.77	103.99	104.48	104.92	105.50	106.31	107.83
MEAN	106.25	105.99	105.36	104.69	104.11	103.89	104.19	104.83	105.35	106.00	106.59	107.02
LOW	106.40	106.27	105.79	104.94	104.32	103.98	104.49	105.21	105.63	106.38	106.82	107.20

SUMMARY FOR 1998 HIGH 103.77 (June 15, 1998) MEAN 105.35 LOW 107.20 (Dec. 23-24, 1998)

Figure 124. Water level in observation well 13L013, Dougherty County.

IDENTIFICATION NUMBER.—14P014.
LOCATION.—Lat 31°57′31″, long 83°54′23″, Hydrologic Unit 03130006.
SITE NAME.—Georgia Geologic Survey, Veterans Memorial State Park, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Clayton.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 550 ft, cased to 500 ft, open hole.
DATUM.—Altitude of land-surface datum is 252 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1984 to current year. Continuous record since August 1984.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 37.16 ft below land-surface datum, September 2, 1984; lowest, 50.82 ft below land-surface datum, November 22, 1998.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	47.76	46.94	46.16	45.27	44.75	44.61	45.02	46.69	48.65	49.83	50.20	49.77
MEAN	48.13	47.47	46.56	45.74	44.93	44.79	45.81	47.70	49.29	50.11	50.61	50.40
LOW	48.84	47.84	46.98	46.16	45.11	44.99	46.63	48.72	49.79	50.32	50.82	50.68

SUMMARY FOR 1998 HIGH 44.61 (June 15, 1998) MEAN 47.63 LOW 50.82 (Nov. 22, 1998)

Figure 125. Water level in observation well 14P014, Crisp County.

Cretaceous Aquifers and Aquifer Systems

Water levels in Cretaceous aquifers and aquifer systems were monitored in 13 wells in 1998 and data from these wells (fig. 126) are summarized in figures 127-139. The Cretaceous aquifers and aquifer systems include the Providence aquifer in southwestern Georgia and the Dublin, Midville, and the Dublin-Midville aquifer systems in the northeastern part of the Coastal Plain. Water levels in these aquifers and aquifer systems are influenced by variations in precipitation and pumping (Clark and others, 1983, 1985).

In Chatham County, wells 37Q186 (fig. 128) and 38Q201 (fig.129), are open to sediments of low permeability that yield low quantities of water. These sediments are equivalent to Cretaceous aquifers and aquifer systems located in updip areas, northwest of Chatham County.

Providence aquifer

The water level in the Providence aquifer was monitored in one well in 1998 (fig. 130). The water level in the aquifer is influenced by variations in precipitation and pumping (Clarke and others, 1983).

Dublin aquifer system

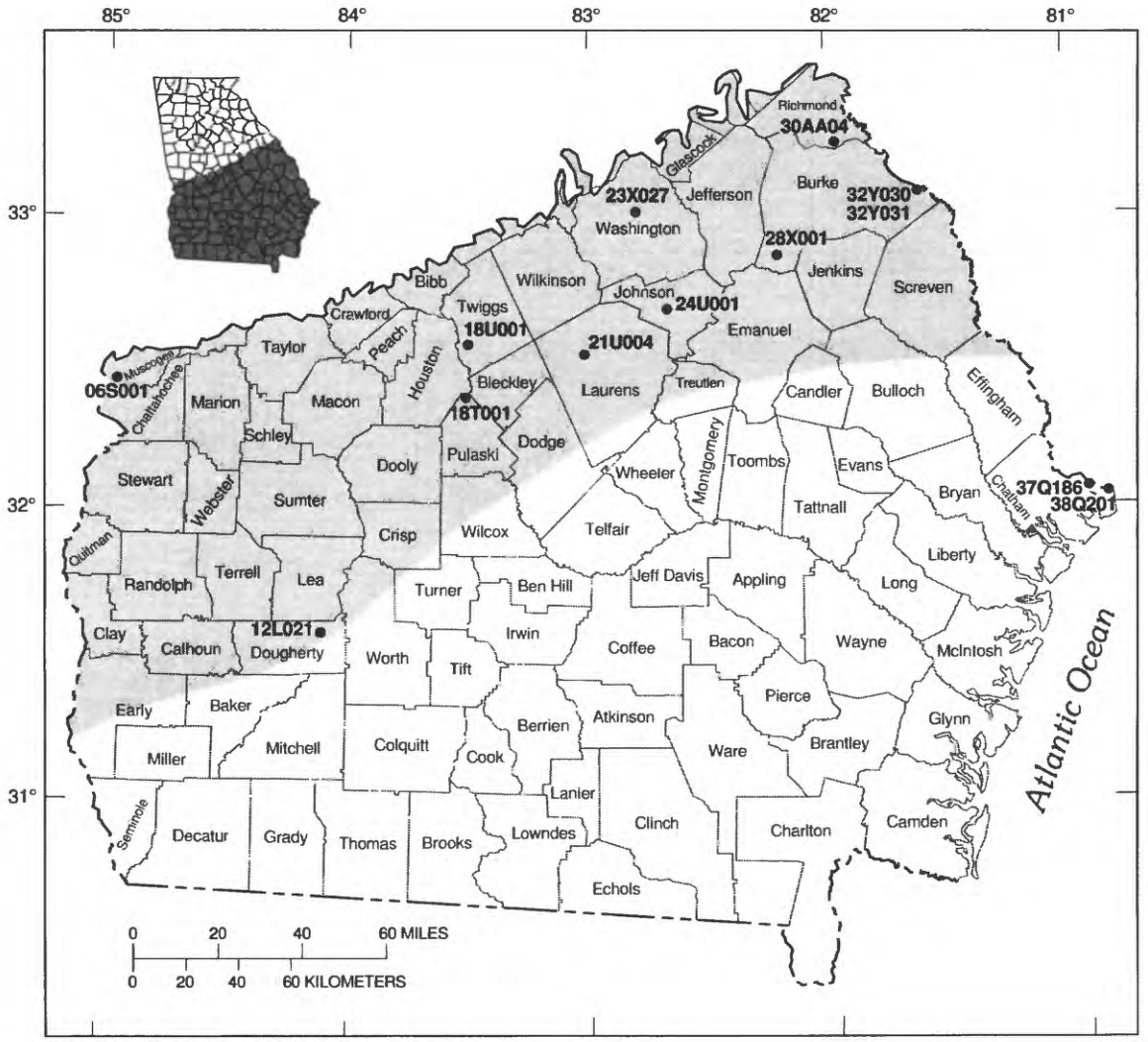
The water level in the Dublin aquifer system was monitored in two wells in 1998 and data from these wells are summarized in figures 131 and 132. In the eastern Houston County and western Twiggs County area, water levels in wells tapping the aquifer are affected by precipitation and pumping (Clarke and others, 1985). The Dublin aquifer system includes the upper and lower Dublin aquifers.

Midville aquifer system

The water level was monitored in five wells in the Midville aquifer system in 1998 and data from these wells are summarized in figures 133-137. The water level in the Midville aquifer system is affected mainly by regional pumping (Clarke and others, 1985). The Midville aquifer system includes the upper and lower Midville aquifers.

Dublin-Midville aquifer system

The water level in the Dublin-Midville aquifer system was monitored in two wells in 1998 and data from these wells are summarized in figures 138 and 139. Water levels in wells tapping the Dublin-Midville aquifer system in Richmond County are influenced mainly by precipitation and by local pumping. The water level in the Dublin-Midville aquifer system, at Sandersville, Washington County, is influenced mainly by local pumping. (Gorday, 1985)



Base modified from U.S.Geological Survey
State base map

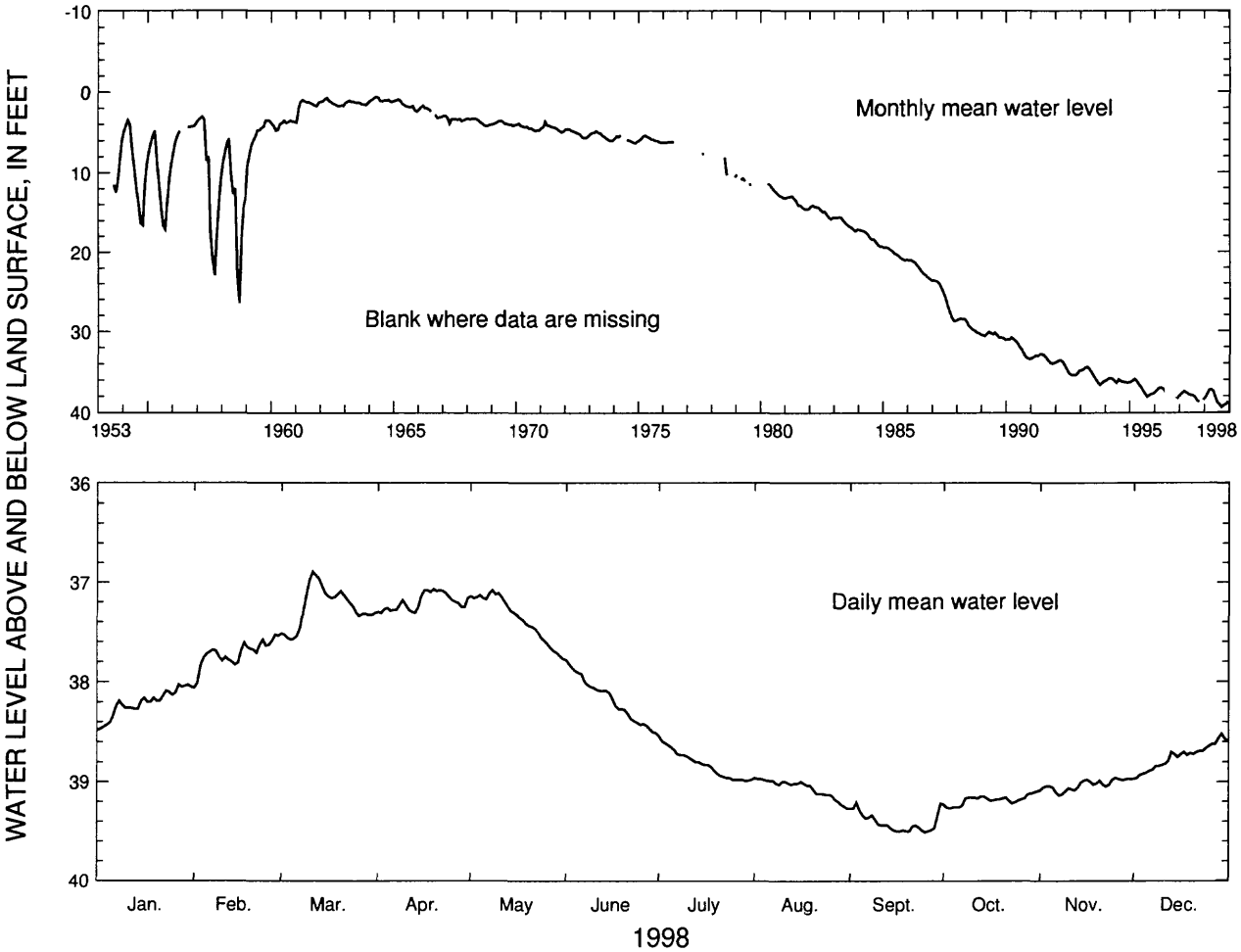
EXPLANATION

CRETACEOUS AQUIFER SYSTEMS ARE USED

12L021● OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 126. Location of observation wells completed in Cretaceous aquifers and aquifer systems.

IDENTIFICATION NUMBER.—06S001.
LOCATION.—Lat 32°20′31″, long 84°59′10″, Hydrologic Unit 03130003.
SITE NAME.—U.S. Army, Fort Benning.
INSTRUMENTATION.—Digital recorder.
AQUIFER.— Cretaceous (Blufftown, Eutaw, and Tuscaloosa Formations).
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 12 in., depth 568 ft, screened intervals 215-220 ft, 230-235 ft, 280-290 ft, and 540-550 ft.
DATUM.—Altitude of land-surface datum is 255 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1953 to current year. Continuous record since August 1953.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.37 ft below land-surface datum, April 10, 1964; lowest, 39.51 ft below land-surface datum, September 25, 1998.

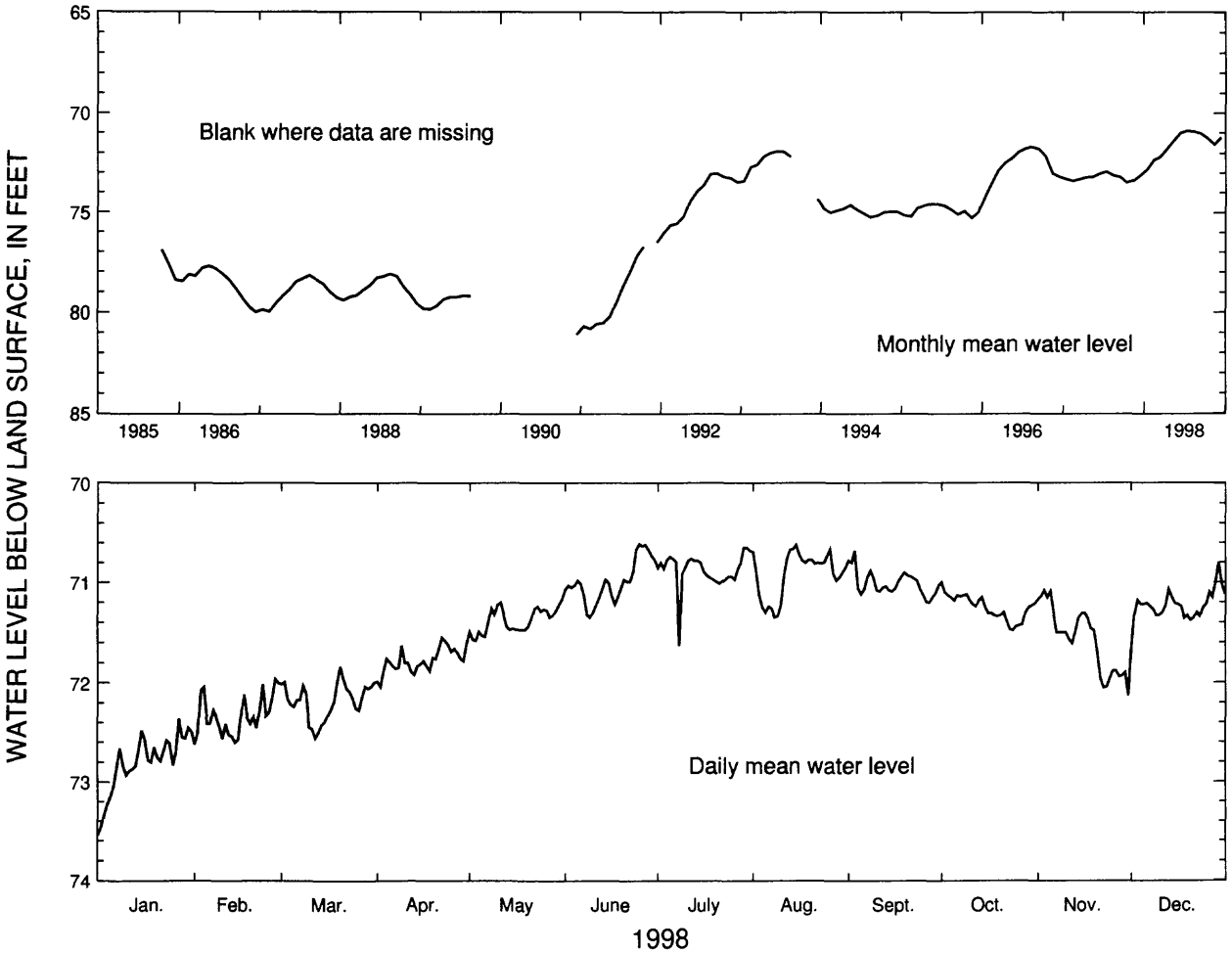


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	38.03	37.53	36.89	37.07	37.08	37.78	38.54	38.96	39.21	39.10	38.96	38.52
MEAN	38.21	37.72	37.25	37.20	37.36	38.18	38.83	39.07	39.41	39.19	39.03	38.75
LOW	38.48	38.06	37.58	37.31	37.77	38.51	38.99	39.27	39.51	39.27	39.14	38.97

SUMMARY FOR 1998 HIGH 36.89 (Mar. 11, 1998) MEAN 38.35 LOW 39.51 (Sept. 25, 1998)

Figure 127. Water level in observation well 06S001, Chattahoochee County.

IDENTIFICATION NUMBER.—37Q186.
LOCATION.—Lat 32°06'22", long 81°06'37", Hydrologic Unit 03060109.
SITE NAME.—U.S. Geological Survey, Hutchinson Island, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Paleocene and Cretaceous aquifer systems equivalents of low permeability.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 and 4 in., depth 1,520 ft, 6 in. casing to 792 ft and 4 in. from 792 to 1,380 ft, open hole.
DATUM.—Altitude of land-surface datum is 6 ft.
REMARKS.—Well pumped and sampled, November 30, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—October 1985 to current year. Continuous record since October 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 70.61 ft below land-surface datum, June 25, 1998; lowest, 81.88 ft below land-surface datum, December 14, 1990.

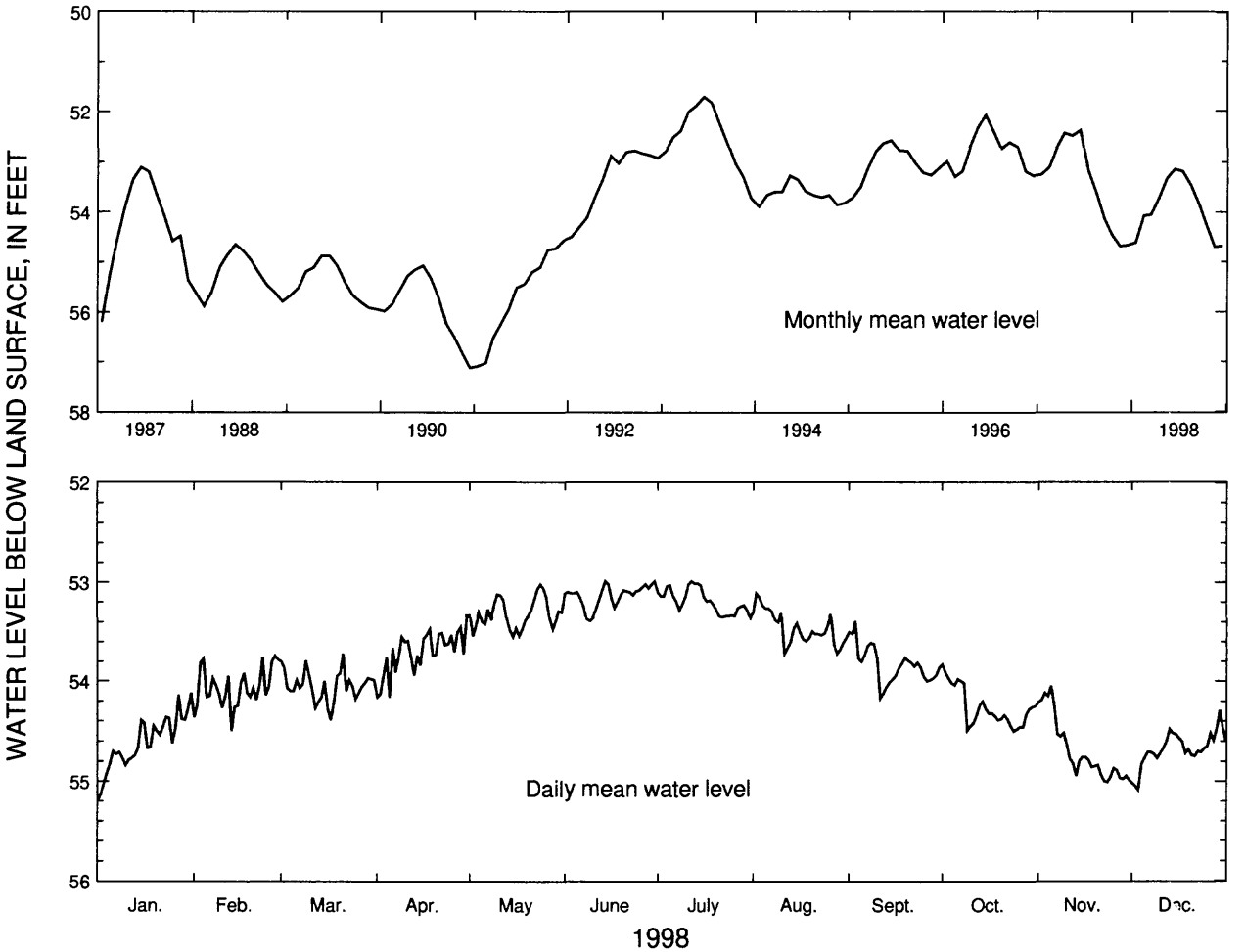


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	72.36	71.96	71.84	71.55	71.16	70.61	70.65	70.62	70.68	71.00	71.08	70.80
MEAN	72.80	72.33	72.18	71.78	71.38	70.99	70.87	70.91	71.01	71.25	71.57	71.23
LOW	73.54	72.62	72.56	72.04	71.58	71.35	71.63	71.35	71.20	71.48	72.13	71.68

SUMMARY FOR 1998 HIGH 70.61 (June 25, 1998) MEAN 71.52 LOW 73.54 (Jan. 1, 1998)

Figure 128. Water level in observation well 37Q186, Chatham County.

IDENTIFICATION NUMBER.—38Q201.
LOCATION.—Lat 32°01'50", long 80°54'06", Hydrologic Unit 03060109.
SITE NAME.—National Park Service, Fort Pulaski, test well.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Paleocene and Cretaceous aquifer systems equivalents of low permeability.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 1,546 ft, cased to 1,358 ft, open hole.
DATUM.—Altitude of land-surface datum is 7 ft.
REMARKS.—Well pumped and sampled, August 11, September 11, October 9, November 10, and December 2, 1998, for analysis of chloride concentration.
PERIOD OF RECORD.—May 1986 to current year. Continuous record since January 1987.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 51.40 ft below land-surface datum, June 24, 1993; lowest, 57.38 ft below land-surface datum, January 6, 1991.

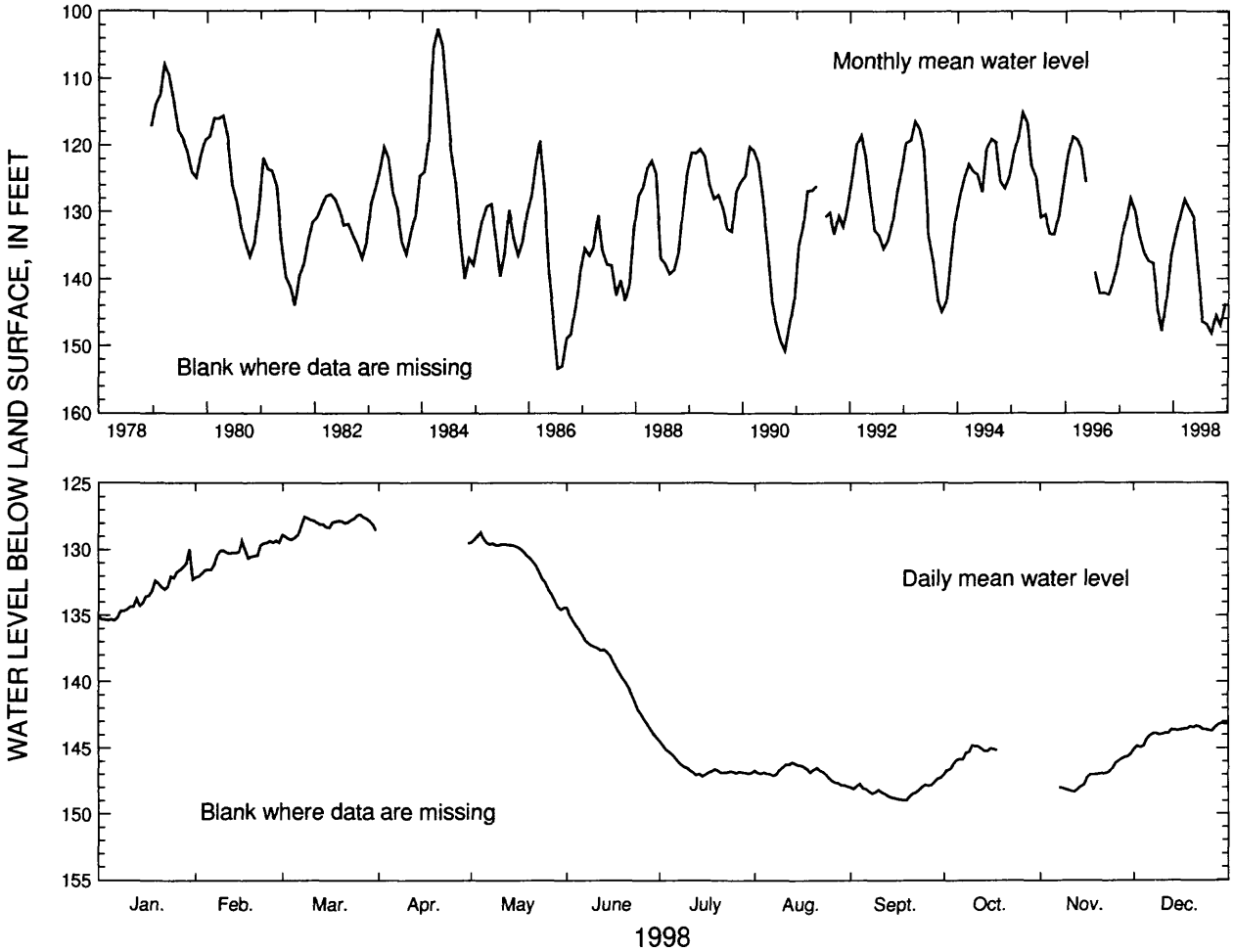


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	54.12	53.74	53.72	53.33	53.02	52.99	52.99	53.11	53.39	53.83	54.05	54.29
MEAN	54.61	54.07	54.05	53.70	53.32	53.14	53.19	53.46	53.83	54.26	54.70	54.68
LOW	55.19	54.50	54.39	54.16	53.55	53.39	53.36	53.72	54.17	54.50	55.01	55.09

SUMMARY FOR 1998 HIGH 52.99 (June 14, 30, 1998) MEAN 53.92 LOW 55.19 (Jan. 1, 1998)

Figure 129. Water level in observation well 38Q201, Chatham County.

IDENTIFICATION NUMBER.—12L021.
LOCATION.—Lat 31°35'37", long 84°10'29", Hydrologic Unit 03130008.
SITE NAME.—U.S. Geological Survey, test well 10.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Providence.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 834 ft, cased to 810 ft, screen from 810 to 830 ft.
DATUM.—Altitude of land-surface datum is 198 ft.
REMARKS.—Water-level data for periods, April 1-29 and October 20 to November 5, 1998, are missing.
PERIOD OF RECORD.—December 1978 to current year. Continuous record since December 1978.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 101.59 ft below land-surface datum, April 26, 1984; lowest, 156.36 ft below land-surface datum, July 26, 1986.

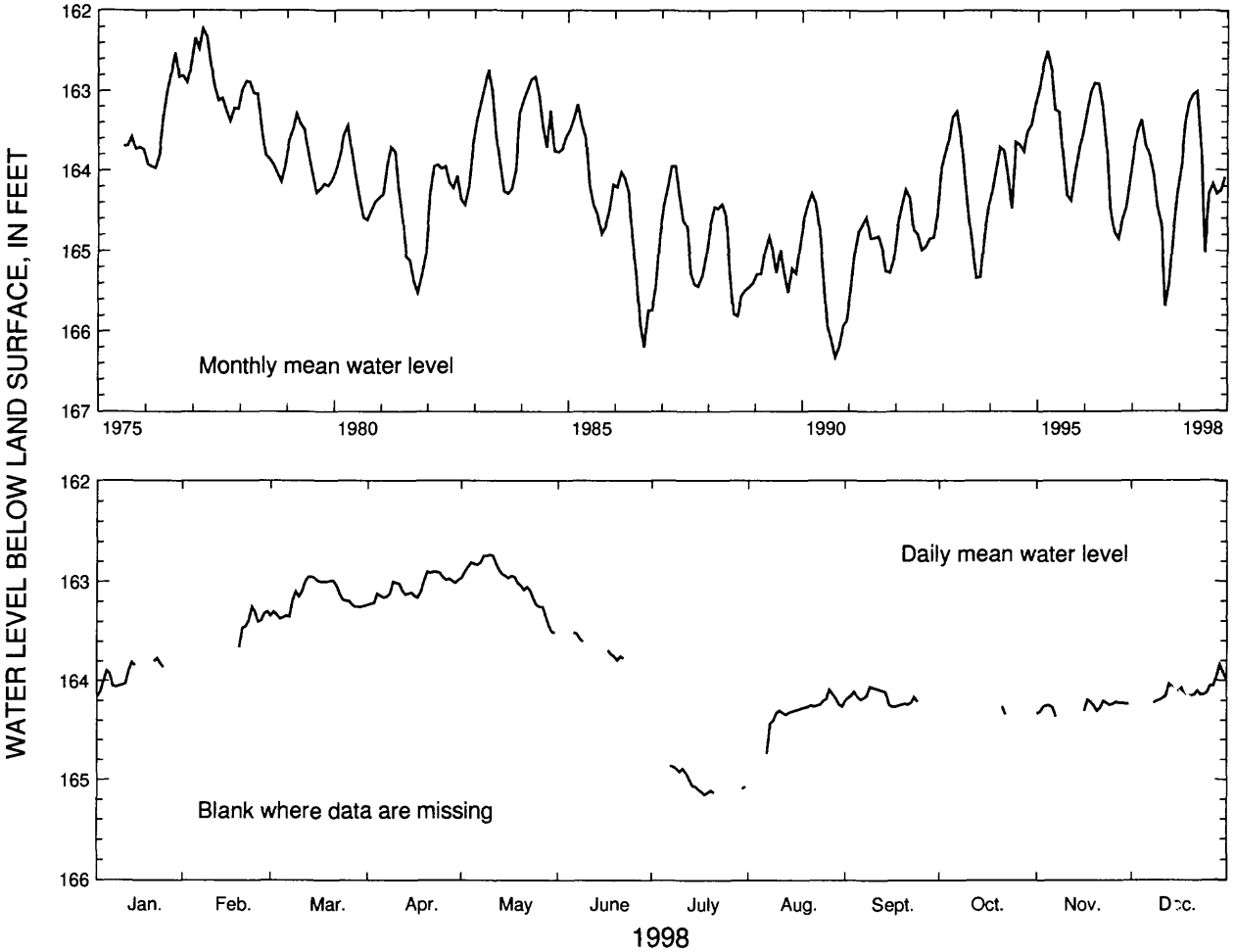


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	129.95	129.30	127.35	------	128.67	134.42	144.45	146.06	147.25	------	------	143.16
MEAN	133.45	130.38	128.10	------	130.78	139.06	146.44	146.86	148.23	------	------	143.80
LOW	135.39	132.06	129.24	------	134.55	144.18	147.15	147.91	148.95	------	------	145.08

SUMMARY FOR 1998 HIGH 127.35 (Mar. 26, 1998) MEAN 139.67 LOW 148.95 (Sept. 19, 1998)

Figure 130. Water level in observation well 12L021, Dougherty County.

IDENTIFICATION NUMBER.—18U001.
LOCATION.—Lat 32°33'02", long 83°26'34", Hydrologic Unit 03070104.
SITE NAME.—Georgia Kraft, U.S. Geological Survey, test well 3.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Dublin aquifer system.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 616 ft, cased to 586 ft, screen from 586 to 616 ft.
DATUM.—Altitude of land-surface datum is 442 ft.
REMARKS.—Water-level data for periods, January 1-4, 18-22, January 27 to February 18, June 1-5, 10-16, June 23 to July 6, July 22 to August 6, September 25-29, October 1-20, 23-31, November 8-15, December 1-7, 1998, are missing.
PERIOD OF RECORD.—July 1975 to current year. Continuous record since July 1975.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 162.00 ft below land-surface datum, April 4, 1977; lowest, 166.44 ft below land-surface datum, October 3, 1990.

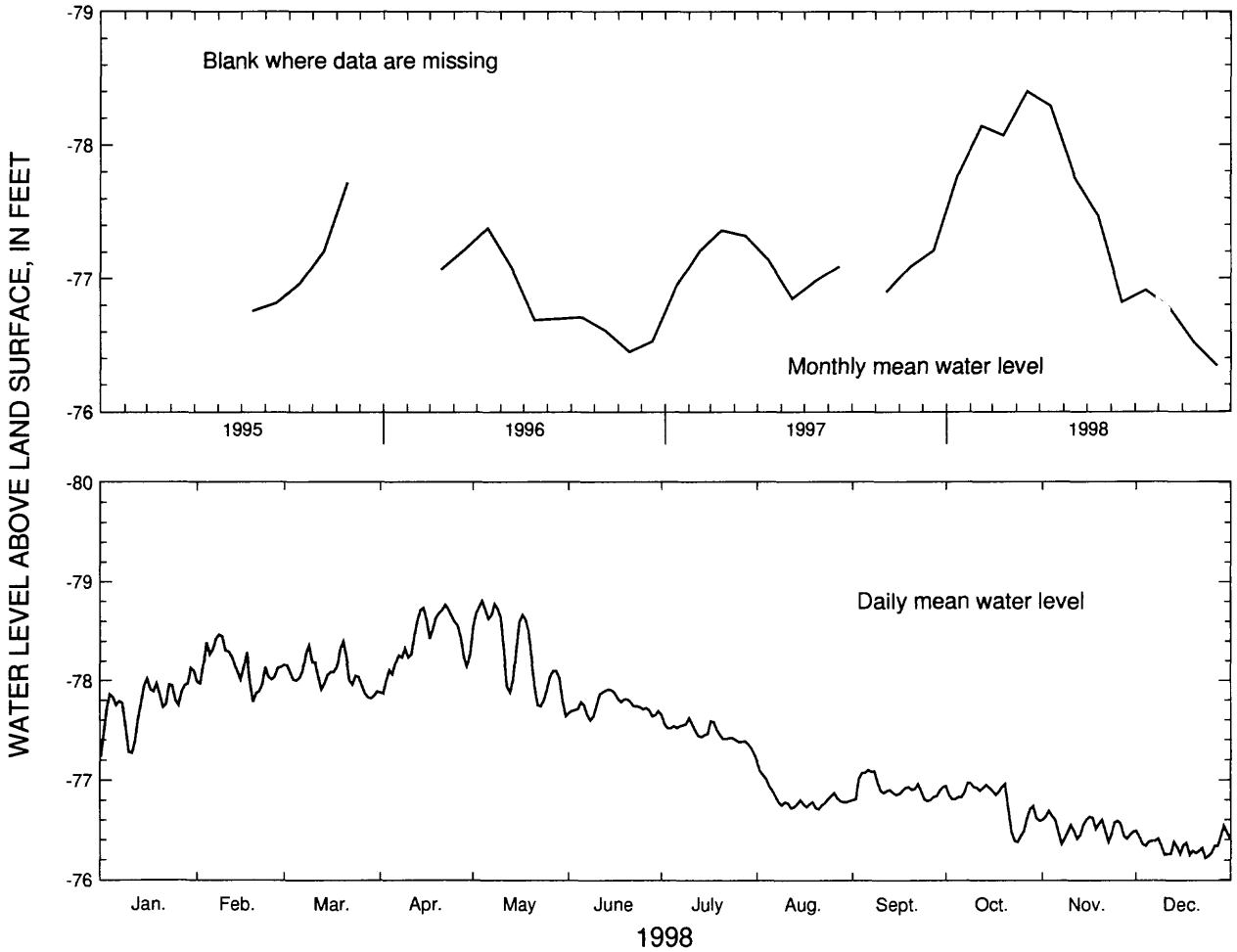


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	------	162.95	162.90	162.73	------	------	164.09	164.06	------	------	------
MEAN	------	------	163.15	163.05	163.01	------	------	164.29	164.17	------	------	------
LOW	------	------	163.37	163.23	163.51	------	------	164.74	164.26	------	------	------

SUMMARY FOR 1998 HIGH 162.73 (May 10, 1998) MEAN 163.76 LOW 165.15 (July 18, 1998)

Figure 131. Water level in observation well 18U001, Twiggs County.

IDENTIFICATION NUMBER.—32Y031.
LOCATION.—Lat 35°05'49", long 81°39'11", Hydrologic Unit 03060106.
SITE NAME.—Brighams Landing, test well 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Dublin.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 and 4 in., depth 568 ft, 6 in. casing to 490 ft and 4 in. from 490 to 502 ft and 552 to 568 ft, screen from 502 to 552 ft.
DATUM.—Altitude of land-surface datum is 85 ft.
REMARKS.—Well freeflows 200 gallons per minute.
PERIOD OF RECORD.—July 1995 to current year. Continuous record since July 1995.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 78.81 ft above land-surface datum, May 4, 1998; lowest, 75.82 ft above land-surface datum, March 8, 1996.



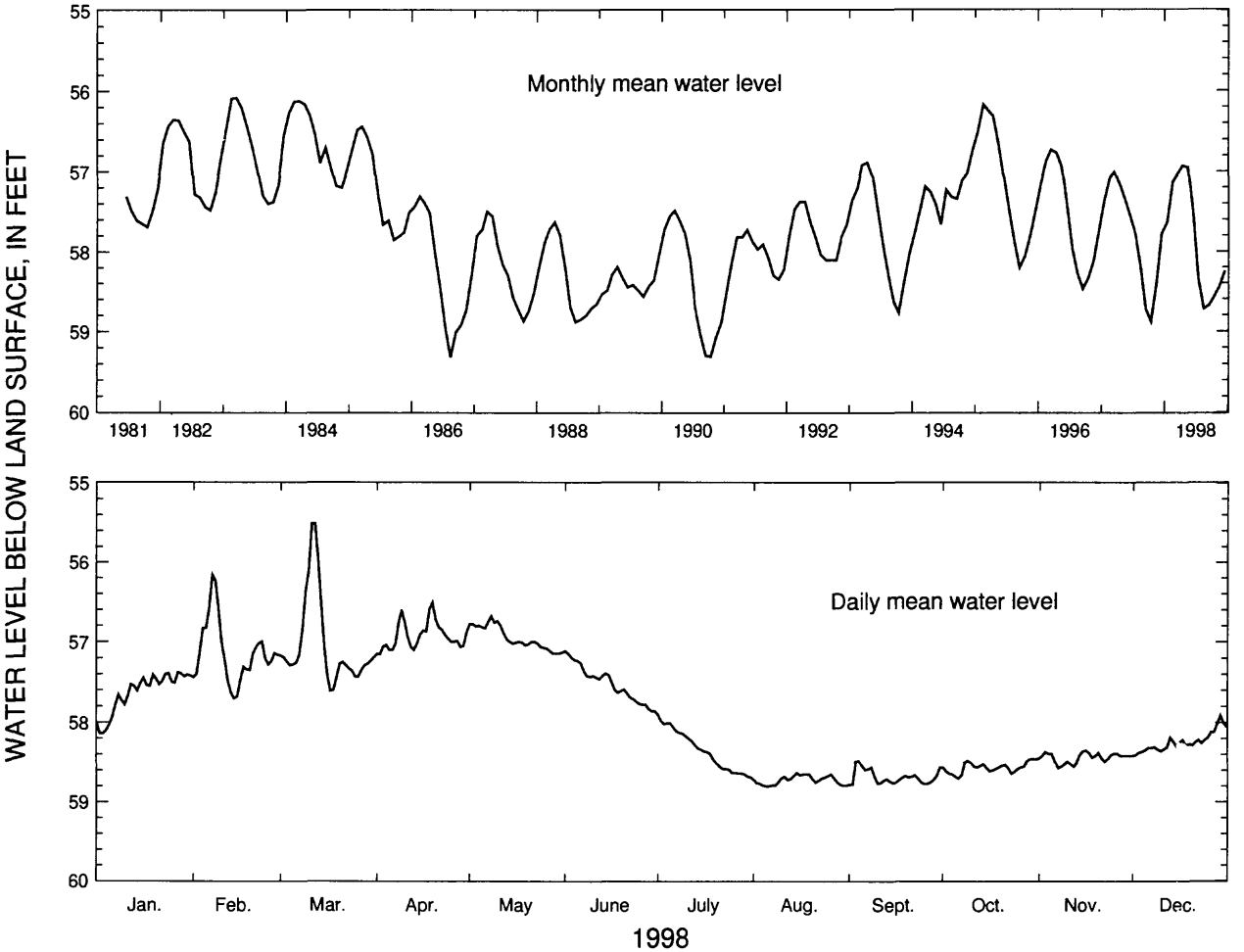
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-78.13	-78.47	-78.40	-78.77	-78.81	-77.91	-77.65	-77.18	-77.10	-76.97	-76.69	-76.54
MEAN	-77.77	-78.14	-78.07	-78.40	-78.29	-77.75	-77.47	-76.82	-76.91	-76.78	-76.52	-76.34
LOW	-77.23	-77.78	-77.82	-77.87	-77.64	-77.60	-77.26	-76.71	-76.79	-76.38	-76.36	-76.22

SUMMARY FOR 1998 HIGH -78.81 (May 4, 1998) MEAN -77.43 LOW -76.22 (Dec. 23, 1998)

[Negative value indicates water level above land surface]

Figure 132. Water level in observation well 32Y031, Burke County.

IDENTIFICATION NUMBER.—18T001.
LOCATION.—Lat 32°22'45", long 83°29'01", Hydrologic Unit 03070104.
SITE NAME.—U.S. Geological Survey, Arrowhead test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Midville aquifer system.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 1,555 ft, cased to 970 ft, screened intervals, 970-980 ft, 1,110-1,130 ft, and 1,270-1,280 ft.
DATUM.—Altitude of land-surface datum is 334 ft.
REMARKS.—None.
PERIOD OF RECORD.— June 1981 to current year. Continuous record since June 1981.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 53.90 ft below land-surface datum, July 9, 1994; lowest, 59.52 ft below land-surface datum, October 7-8, 1990.

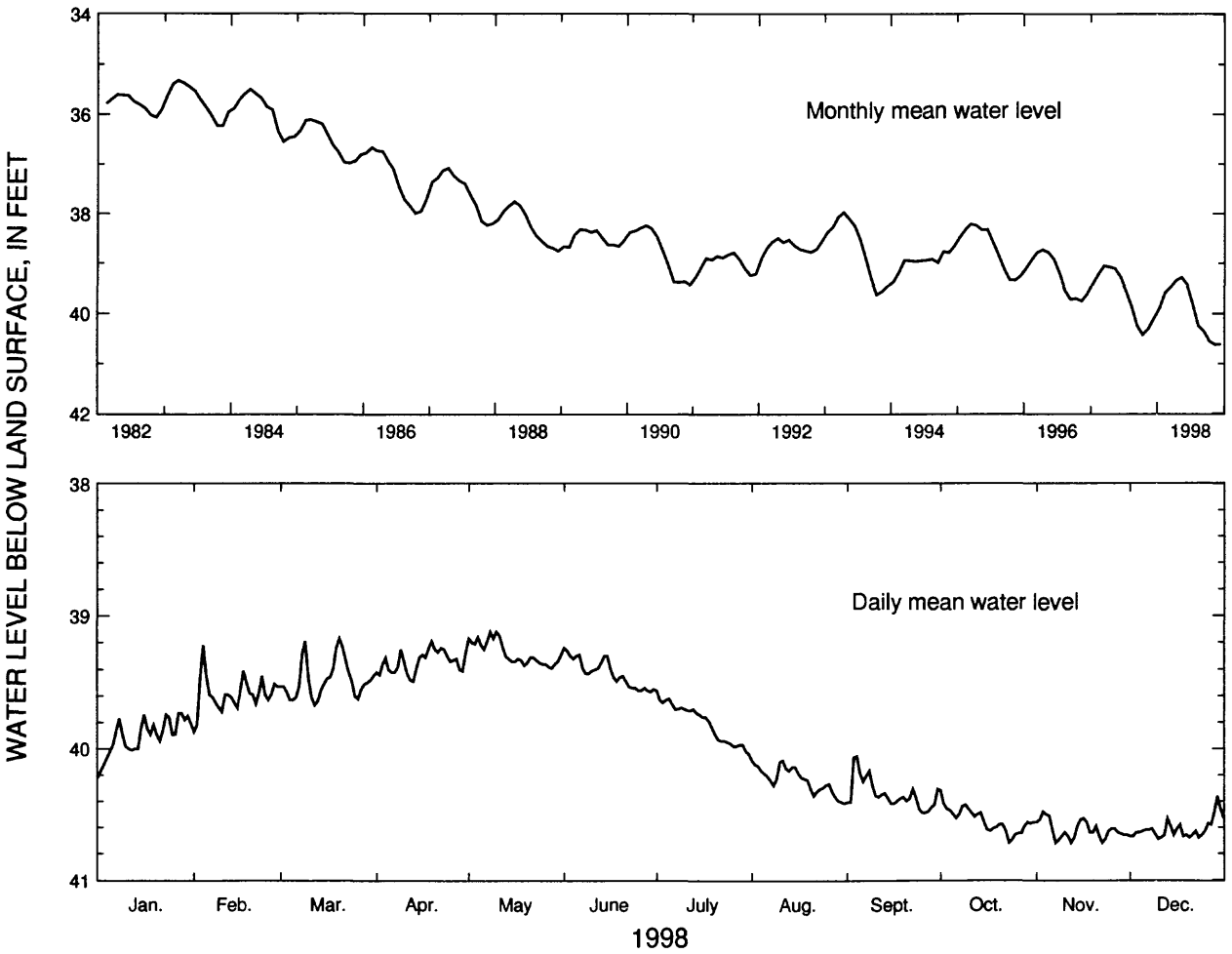


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	57.38	56.16	55.51	56.51	56.68	57.11	57.90	58.63	58.48	58.46	58.35	57.91
MEAN	57.63	57.13	57.04	56.93	56.95	57.52	58.35	58.72	58.68	58.57	58.44	58.25
LOW	58.14	57.70	57.61	57.15	57.14	57.86	58.69	58.80	58.78	58.70	58.57	58.42

SUMMARY FOR 1998 HIGH 55.51 (Mar. 11-12, 1998) MEAN 57.86 LOW 58.80 (Aug. 5-6, 1998)

Figure 133. Water level in observation well 18T001, Pulaski County.

IDENTIFICATION NUMBER.—21U004.
LOCATION.—Lat 32°30'27", long 83°02'44", Hydrologic Unit 03070102.
SITE NAME.—Georgia Department of Natural Resources, Laurens No. 3.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Midville.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 and 4 in., depth 1,685 ft, cased with 6 in. to 990 ft and with 4 in. from 990 to 1,060 ft, 1,080 to 1,220 ft, and from 1,240 to 1,685 ft, screen from 1,060 to 1,080 ft and 1,220 to 1,240 ft.
DATUM.—Altitude of land-surface datum is 282 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1982 to current year. Continuous record since February 1982.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 35.11 ft below land-surface datum, April 2, 1983; lowest, 40.72 ft below land-surface datum, November 22, 1998.

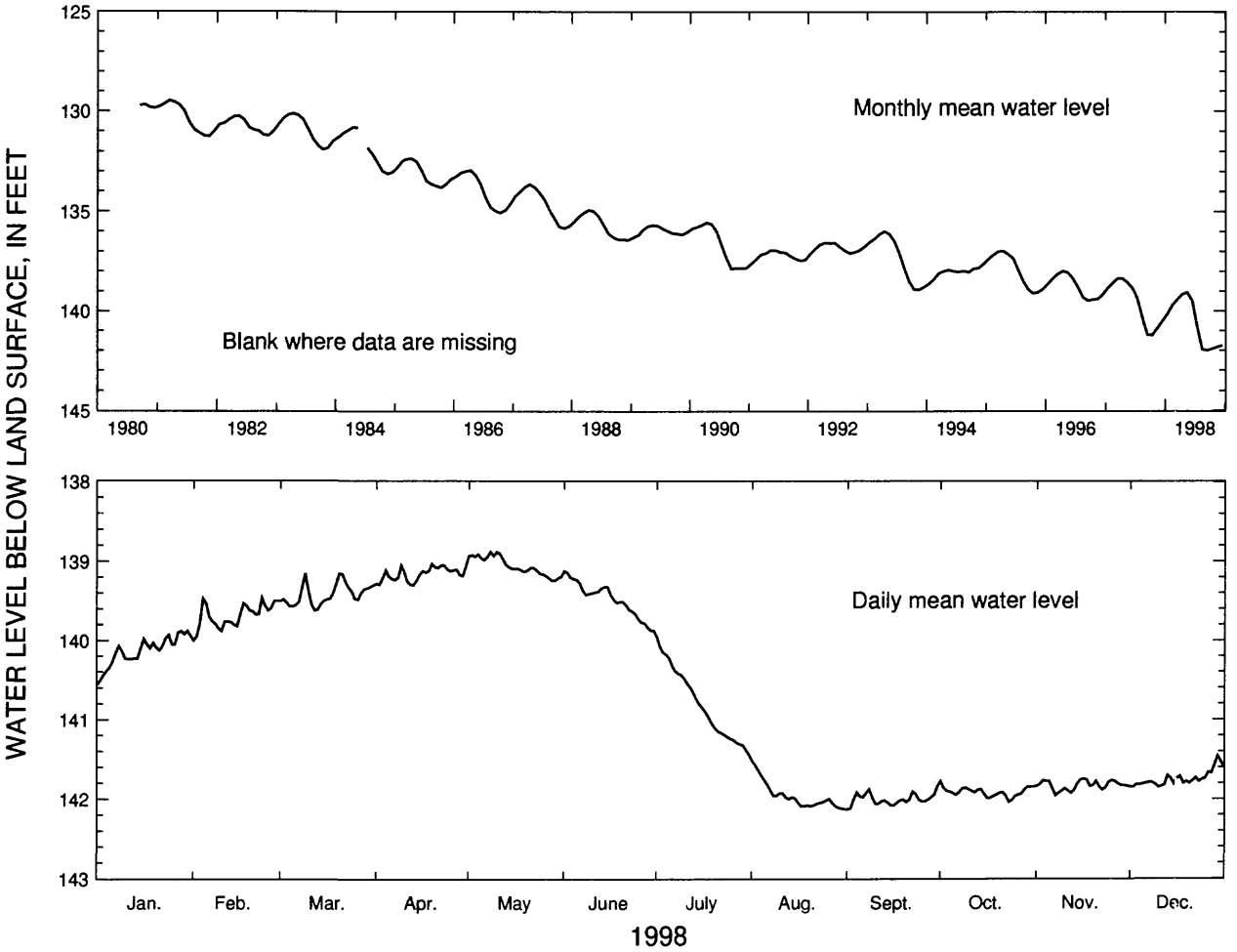


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	39.73	39.22	39.17	39.19	39.12	39.24	39.56	40.09	40.06	40.32	40.48	40.36
MEAN	39.90	39.59	39.48	39.34	39.28	39.43	39.80	40.24	40.35	40.55	40.62	40.61
LOW	40.22	39.87	39.67	39.49	39.39	39.57	40.04	40.42	40.49	40.72	40.72	40.69

SUMMARY FOR 1998 HIGH 39.12 (May 8-9, 1998) MEAN 39.93 LOW 40.72 (Oct. 23, 1998)

Figure 134. Water level in observation well 21U004, Laurens County.

IDENTIFICATION NUMBER.—24V001.
LOCATION.—Lat 32°42'09", long 82°43'02", Hydrologic Unit 03070107.
SITE NAME.—U.S. Geological Survey, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Midville aquifer system.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6, 4, and 2 in., depth 1,780 ft, cased 6 in. to 1,010 ft, 4 in. from 1,010 to 1,120 ft, 1,140 to 1,260 ft, 1,280 to 1,320 ft, 2 in. from 1,340 ft to 1,780 ft. Screen from 1,120 to 1,140 ft, 1,260 to 1,280 ft, and 1,320 to 1,340 ft.
DATUM.—Altitude of land-surface datum is 355 ft.
REMARKS.—None.
PERIOD OF RECORD.—September 1980 to current year. Continuous record since September 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 129.27 ft below land-surface datum, March 13, 1981; lowest, 142.13 ft below land-surface datum, August 31 to September 1, 1998.

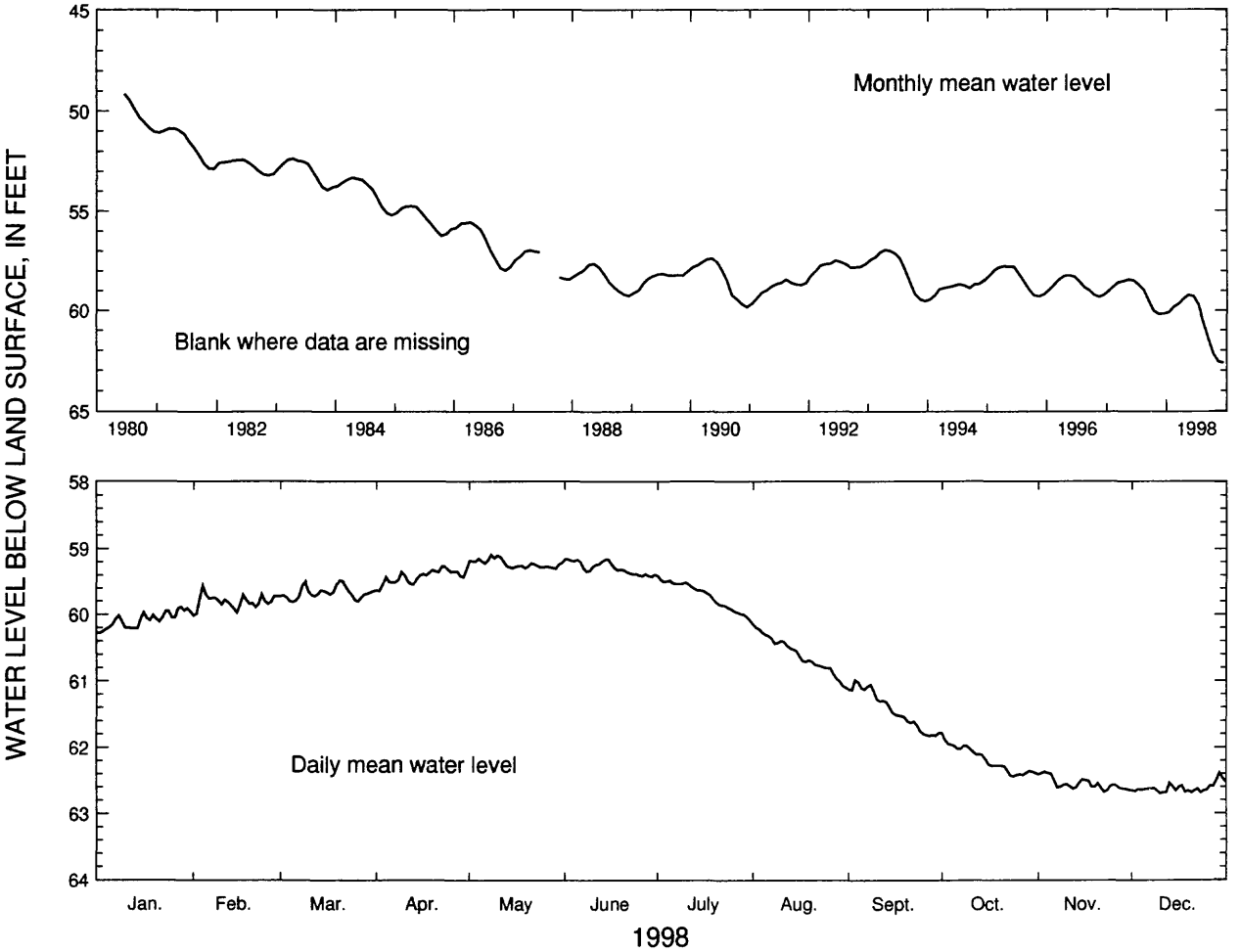


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	139.88	139.46	139.15	139.03	138.88	139.12	139.95	141.52	141.84	141.78	141.75	141.46
MEAN	140.13	139.69	139.42	139.16	139.06	139.48	140.80	141.96	142.00	141.92	141.83	141.75
LOW	140.56	140.00	139.62	139.30	139.24	139.87	141.44	142.13	142.13	142.04	141.96	141.85

SUMMARY FOR 1998 HIGH 138.88 (May 8, 10, 1998) MEAN 140.61 LOW 142.13 (Aug. 31-Sept. 1, 1998)

Figure 135. Water level in observation well 24V001, Johnson County.

IDENTIFICATION NUMBER.—28X001.
LOCATION.—Lat 32°52′32″, long 82°13′15″, Hydrologic Unit 03060201.
SITE NAME.—U.S. Geological Survey, Midville, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Midville aquifer system.
WELL CHARACTERISTICS.—Drilled observation well, diameter 4 in., depth 1,045 ft, cased to 1,025 ft, screen from 1,025 to 1,045 ft.
DATUM.—Altitude of land-surface datum is 269 ft.
REMARKS.—None.
PERIOD OF RECORD.—June 1980 to current year. Continuous record since June 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 49.07 ft below land-surface datum, June 4, 19[illegible]0; lowest, 62.70 ft below land-surface datum, December 10, 1998.

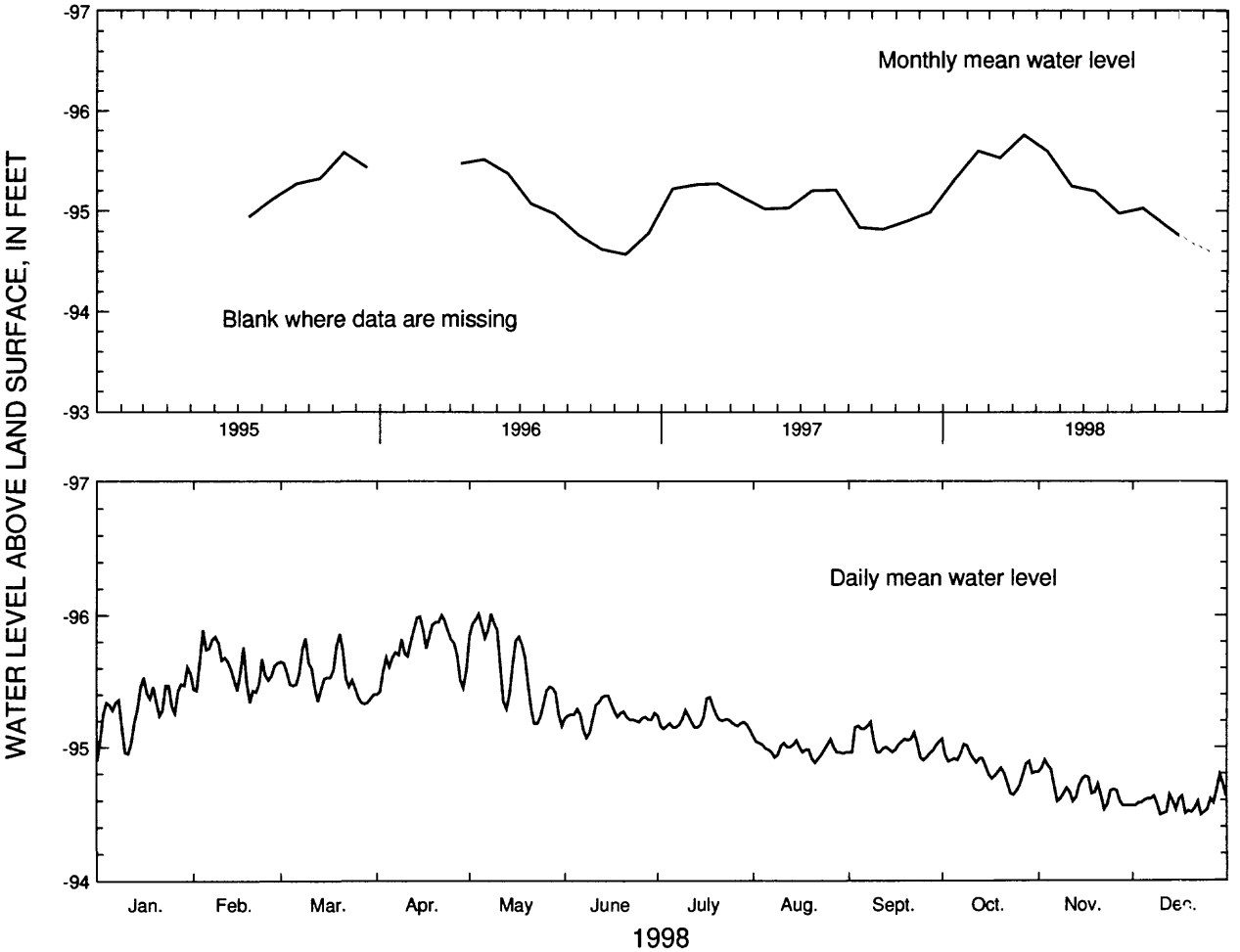


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	59.89	59.56	59.48	59.27	59.09	59.16	59.41	60.15	60.99	61.79	62.37	62.39
MEAN	60.09	59.81	59.67	59.42	59.22	59.29	59.71	60.61	61.44	62.19	62.56	62.62
LOW	60.28	60.02	59.81	59.64	59.30	59.42	60.09	61.11	61.83	62.44	62.68	62.70

SUMMARY FOR 1998 HIGH 59.09 (May 8, 1998) MEAN 60.56 LOW 62.70 (Dec. 10, 19[illegible]3)

Figure 136. Water level in observation well 28X001, Burke County.

IDENTIFICATION NUMBER.—32Y030.
LOCATION.—Lat 33°05'48", long 81°39'11", Hydrologic Unit 03060106.
SITE NAME.—Brighams Landing, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Lower Midville.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 and 4 in., depth 1,020 ft, cased 6 in. to 818 and 4 in. from 818 to 920 ft and 970 to 1,020 ft, screen from 920 to 970 ft.
DATUM.—Altitude of land-surface datum is 85 ft.
REMARKS.—Well freeflows 300-330 gallons per minute.
PERIOD OF RECORD.—July 1995 to current year. Continuous record since July 1995.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 96.01 ft above land-surface datum, May 4, 1998; lowest, 94.39 ft above land-surface datum, November 15, 1996.



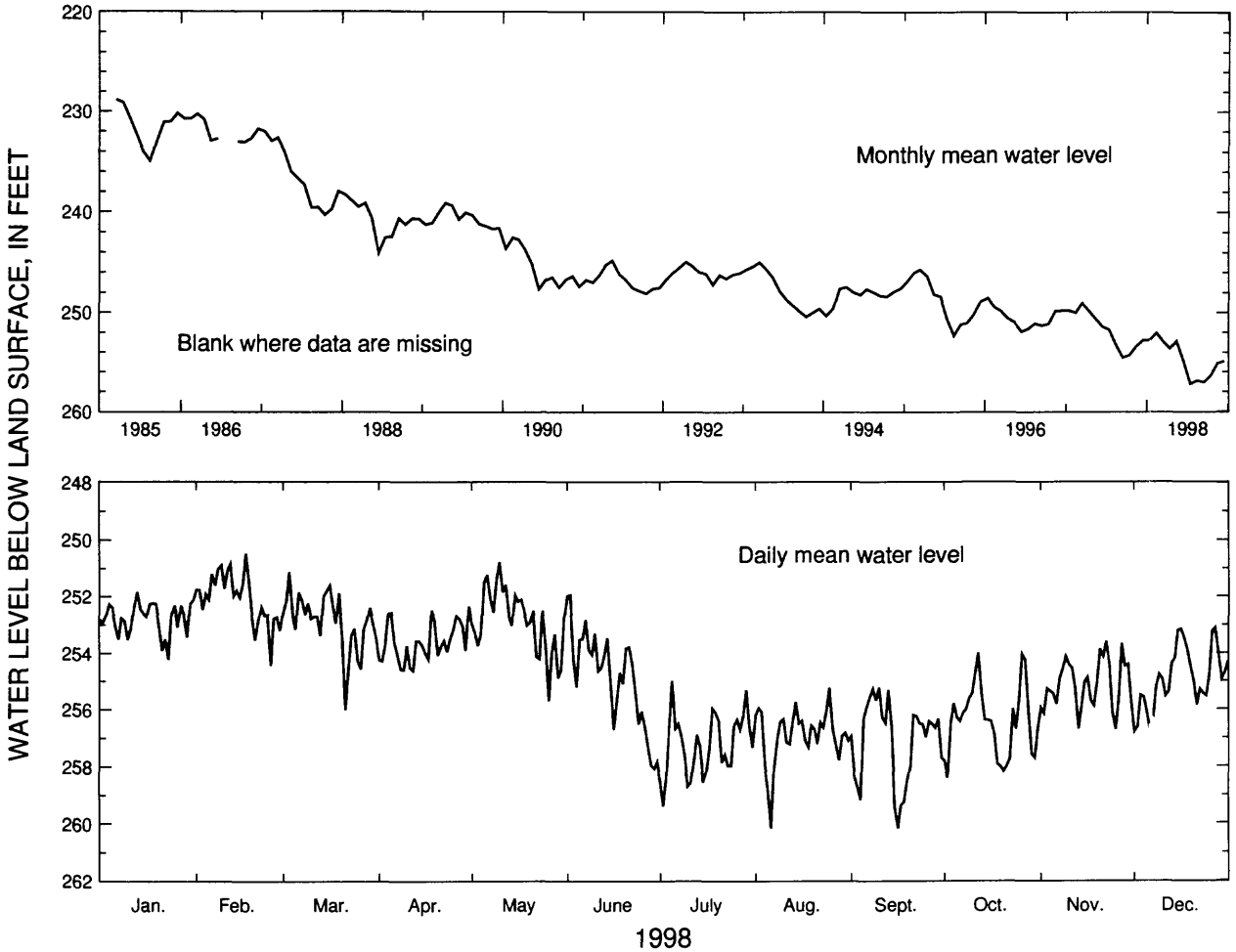
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-95.61	-95.89	-95.86	-96.00	-96.01	-95.39	-95.38	-95.08	-95.19	-95.06	-94.90	-94.79
MEAN	-95.31	-95.60	-95.53	-95.76	-95.60	-95.25	-95.20	-94.98	-95.03	-94.85	-94.68	-94.58
LOW	-94.90	-95.34	-95.33	-95.40	-95.16	-95.07	-95.13	-94.88	-94.90	-94.64	-94.53	-94.49

SUMMARY FOR 1998 HIGH -96.01 (May 4, 1998) MEAN -95.19 LOW -94.49 (Dec. 10, 23, 1998)

[Negative value indicates water level above land surface]

Figure 137. Water level in observation well 32Y030, Burke County.

IDENTIFICATION NUMBER.—23X027.
LOCATION.—Lat 32°58′48″, long 82°48′08″, Hydrologic Unit 03070102.
SITE NAME.—City of Sandersville, well 8.
INSTRUMENTATION.—Digital recorder.
AQUIFER.—Dublin-Midville aquifer system.
WELL CHARACTERISTICS.—Drilled unused municipal well, diameter 8 in., depth 750 ft, cased to 480 ft, screened from 480 to 485 ft, 605 to 610 ft, 650 to 655 ft, 695 to 700 ft, and 740 to 745 ft. Lower screens probably caved.
DATUM.—Altitude of land-surface datum is 450 ft.
REMARKS.—None.
PERIOD OF RECORD.—March 1985 to current year. Continuous record since March 1985.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 227.68 ft below land-surface datum, April 9, 1985; lowest, 260.17 ft below land-surface datum, August 6,1998.

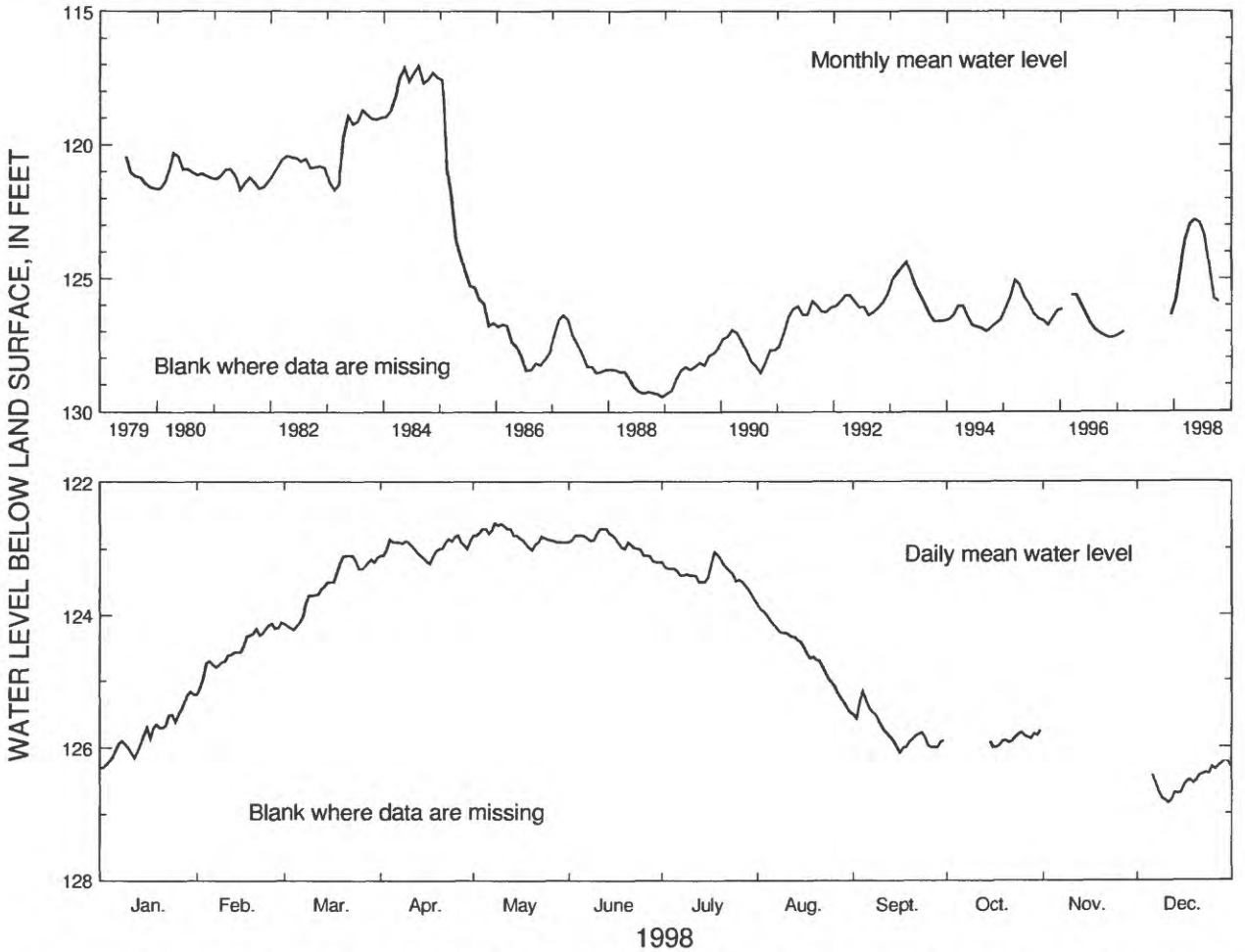


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	251.85	250.48	251.13	252.36	250.79	251.95	254.99	255.24	255.24	254.01	253.60	253.11
MEAN	252.78	252.06	252.86	253.62	252.87	254.88	257.23	256.92	257.09	256.42	255.12	254.92
LOW	254.21	254.43	256.01	254.63	255.69	258.08	259.38	260.17	260.17	258.40	256.72	256.80

SUMMARY FOR 1998 HIGH 250.48 (Feb. 17, 1998) MEAN 254.75 LOW 260.17 (Aug. 6, 1998)

Figure 138. Water level in observation well 23X027, Washington County.

IDENTIFICATION NUMBER.—30AA04.
LOCATION.—Lat 33°15′25″, long 81°57′47″, Hydrologic Unit 03060106.
SITE NAME.—Richmond County water system, U.S. Geological Survey, McBean 2.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Dublin-Midville aquifer system.
WELL CHARACTERISTICS.—Drilled unused municipal supply well, diameter 6 in., depth 496 ft, cased to 174 ft, screen from 174 to 192 ft, 299 to 319 ft, 341 to 372 ft, and 393 to 434 ft.
DATUM.—Altitude of land-surface datum is 293 ft.
REMARKS.—Water-level data for periods, October 1-14 and November 1 to December 5, 1998, are missing.
PERIOD OF RECORD.—June 1979 to current year. Continuous record since June 1979.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 116.70 ft below land-surface datum, May 30, 1984; lowest, 129.61 ft below land-surface datum, August 28, 1988.



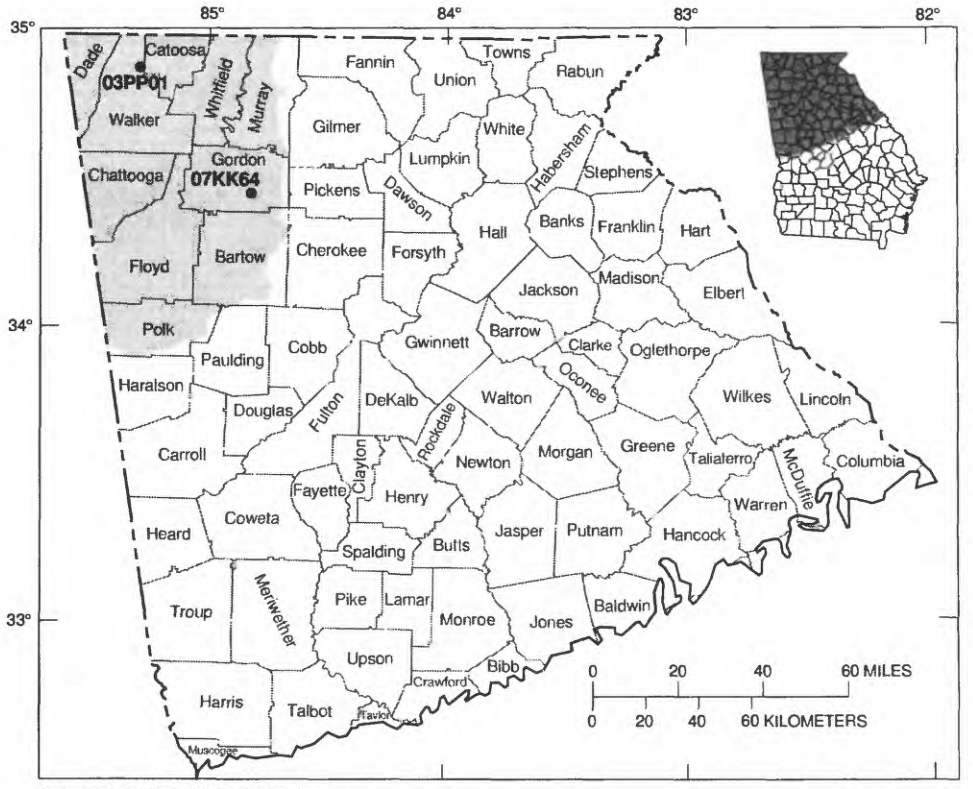
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	125.16	124.11	123.10	122.80	122.61	122.70	123.05	123.84	125.16	------	------	126.20
MEAN	125.79	124.51	123.55	122.97	122.81	122.92	123.38	124.58	125.76	------	------	126.50
LOW	126.30	125.20	124.22	123.22	123.02	123.20	123.77	125.48	126.08	------	------	126.84

SUMMARY FOR 1998 HIGH 122.61 (May 8, 1998) MEAN 124.33 LOW 126.84 (Dec. 11, 1998)

Figure 139. Water level in observation well 30AA04, Richmond County.

Paleozoic-Rock Aquifers

The water levels in unconfined Paleozoic-rock aquifers, in northwestern Gerogia, were monitored in two wells (fig. 140) in 1998 and data from these wells are summarized in figures 141 and 142. In this area, water levels in wells tapping the Paleozoic-rock aquifers are affected mainly by precipitation and local pumping (Cressler, 1964).



Base modified from U.S.Geological Survey
State base map

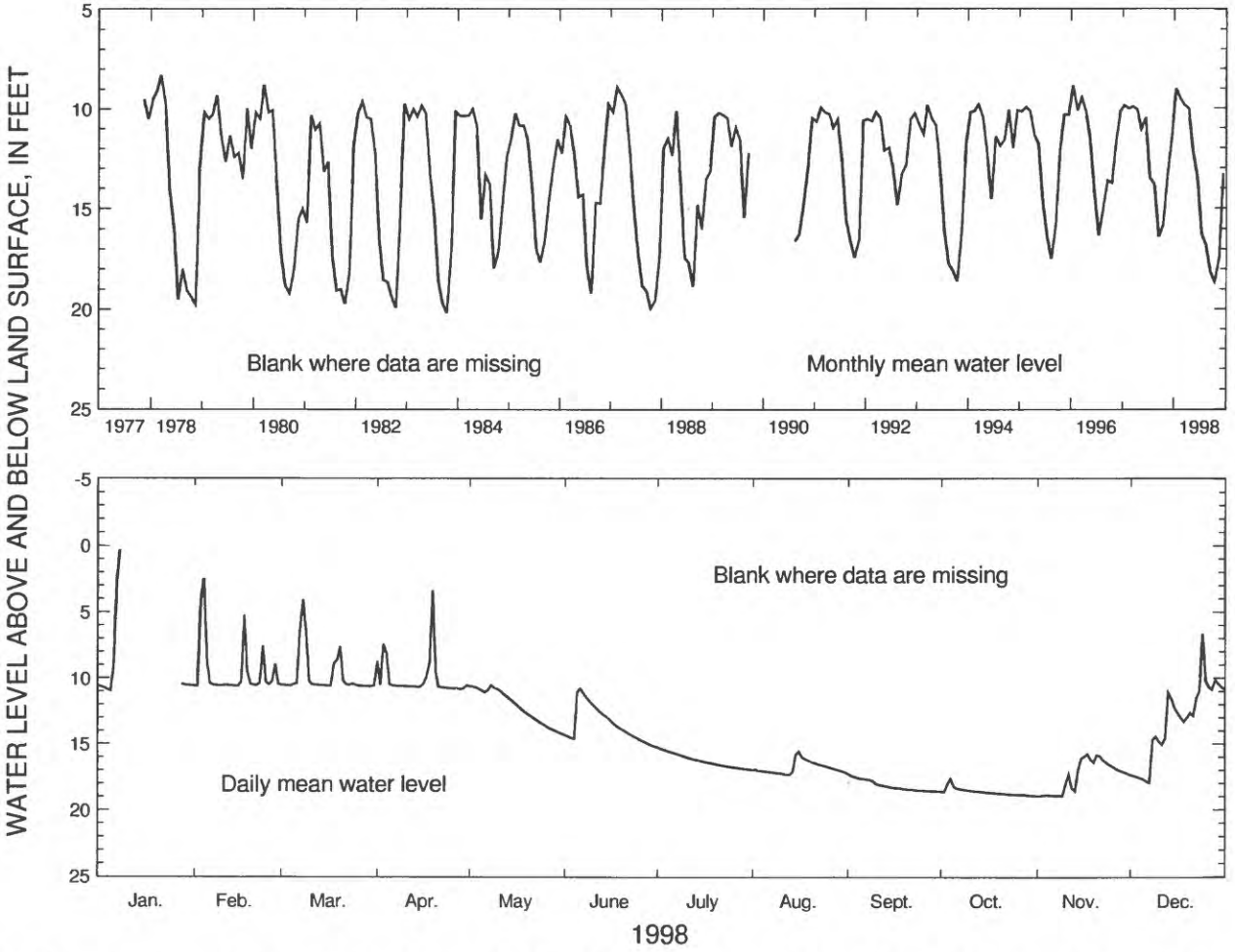
EXPLANATION

PALEOZOIC-ROCK AQUIFERS

07KK64 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 140. Location of observation wells completed in Paleozoic-rock aquifers.

IDENTIFICATION NUMBER.—03PP01.
LOCATION.—Lat 34°54′08″, long 85°16′00″, Hydrologic Unit 06020001.
SITE NAME.—National Park Service, Chickamauga Battlefield Park.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Paleozoic rock (Chickamauga Limestone).
WELL CHARACTERISTICS.—Cable-tooled observation well, diameter 8 in., depth 72 ft, cased to 11 ft, open hole.
DATUM.—Altitude of land-surface datum is 730 ft.
REMARKS.—Water-level data for period, January 9-27, 1998, are missing.
PERIOD OF RECORD.—November 1977 to current year. Continuous record since November 1977.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.32 ft below land-surface datum, January 8,1998, but may have been higher during period of missing record; lowest, 21.70 ft below land-surface datum, August 5, 1978.

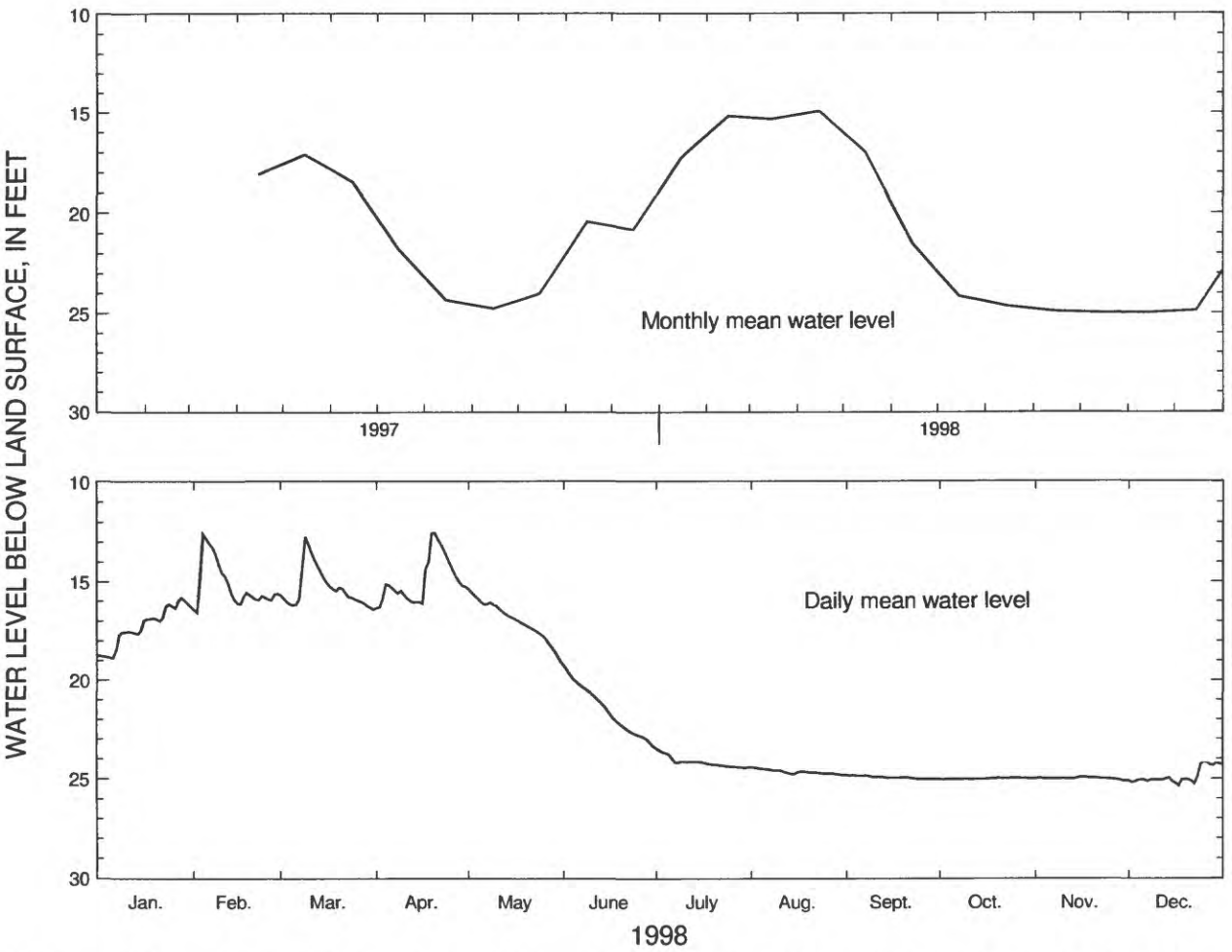


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	2.45	4.04	3.33	10.54	10.77	15.25	15.57	17.27	17.62	15.77	6.63
MEAN	------	9.53	9.83	10.03	12.12	13.47	16.25	16.80	18.14	18.63	17.44	13.29
LOW	------	10.58	10.62	10.83	14.21	15.18	16.94	17.34	18.59	18.95	18.96	17.95

SUMMARY FOR 1998 HIGH 0.32 (Jan. 8, 1998) MEAN 13.99 LOW 18.96 (Nov. 1-2, 1998)

Figure 141. Water level in observation well 03PP01, Walker County.

IDENTIFICATION NUMBER.—07KK64.
LOCATION.—Lat 34°29′22″, long 84°51′16″, Hydrologic Unit 03150102.
SITE NAME.—Calhoun, Georgia, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Paleozoic rock (Knox group).
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 6 in., depth 300 ft, cased to 148 ft, open hole.
DATUM.—Altitude of land-surface datum is 695 ft.
REMARKS.—None.
PERIOD OF RECORD.—April 1997 to current year. Continuous record since April 1997.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 12.54 ft below land-surface datum, April 20, 1998; lowest, 25.36 ft below land-surface datum, December 17, 1998



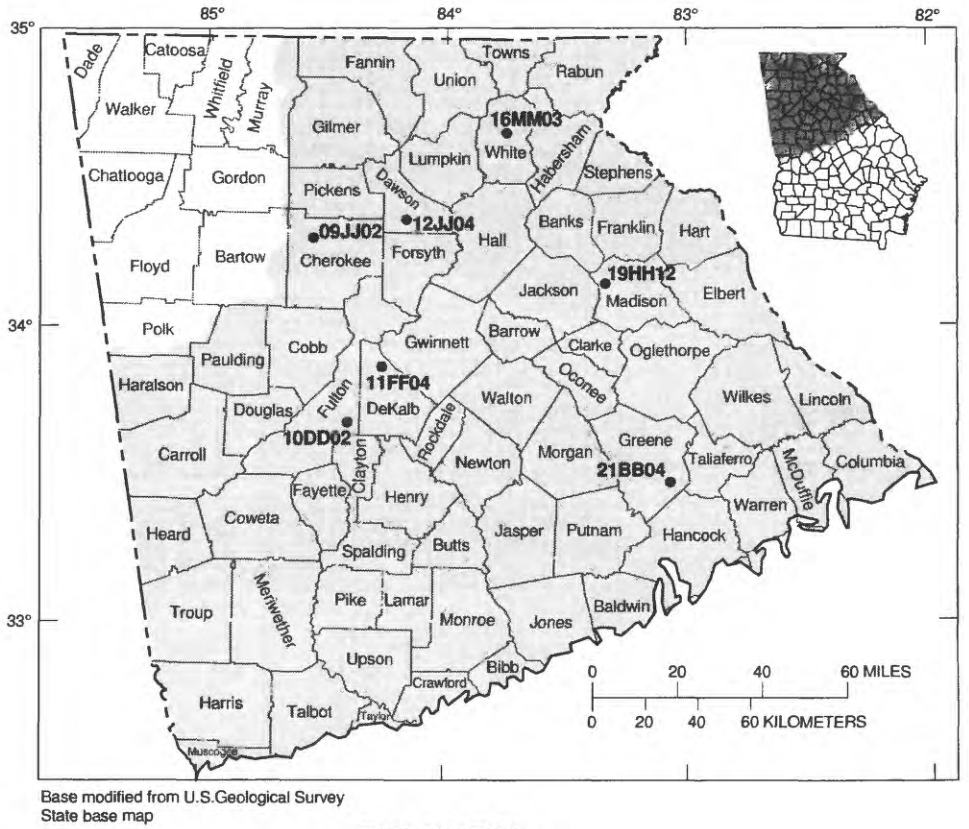
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	15.83	12.61	12.74	12.54	15.37	19.25	23.46	24.43	24.82	24.97	24.93	24.16
MEAN	17.27	15.17	15.32	14.92	16.97	21.51	24.16	24.65	24.93	25.00	24.99	24.88
LOW	18.85	16.57	16.41	16.32	19.06	23.36	24.46	24.81	25.02	25.03	25.11	25.36

SUMMARY FOR 1998 HIGH 12.54 (Apr. 20, 1998) MEAN 20.85 LOW 25.36 (Dec. 17, 1998)

Figure 142. Water level in observation well 07KK64, Gordon County.

Crystalline-Rock Aquifers

Water levels in the crystalline-rock aquifers were monitored in 20 wells in 1998 and data from seven of these wells (fig. 143) are summarized in figures 144-150. Water levels in wells tapping the crystalline-rock aquifers are affected mainly by precipitation and evapotranspiration, and locally by pumping (Cressler and others, 1983). Precipitation can cause a rapid rise in water levels in wells tapping aquifers overlain by thin regolith.



Base modified from U.S.Geological Survey
State base map

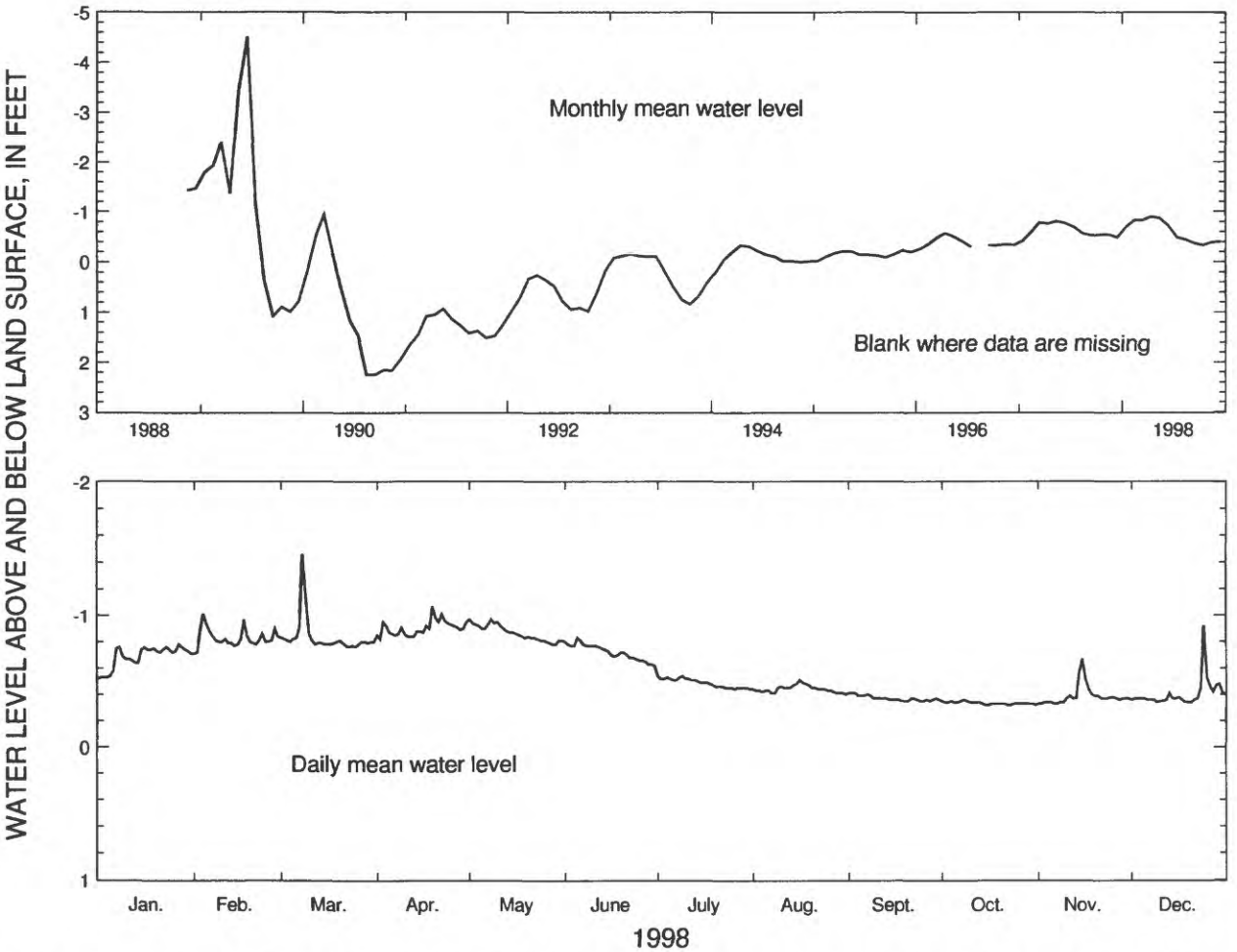
EXPLANATION

CRYSTALLINE-ROCK AQUIFERS

10DD02 OBSERVATION WELL AND IDENTIFICATION NUMBER

Figure 143. Location of observation wells completed in crystalline-rock aquifers.

IDENTIFICATION NUMBER.—09JJ02.
LOCATION.—Lat 34°19'13", long 84°32'53", Hydrologic Unit 03150104.
SITE NAME.—Reinhardt Colledge, well A.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Crystalline rock.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 8 in., depth 370 ft, cased to 104 ft, open hole.
DATUM.—Altitude of land-surface datum is 1,060 ft.
REMARKS.—None.
PERIOD OF RECORD.—November 1988 to current year. Continuous record since November 1988.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 5.79 ft above land-surface datum, June 22, 1989; lowest, 2.77 ft below land-surface datum, September 22, 1990.



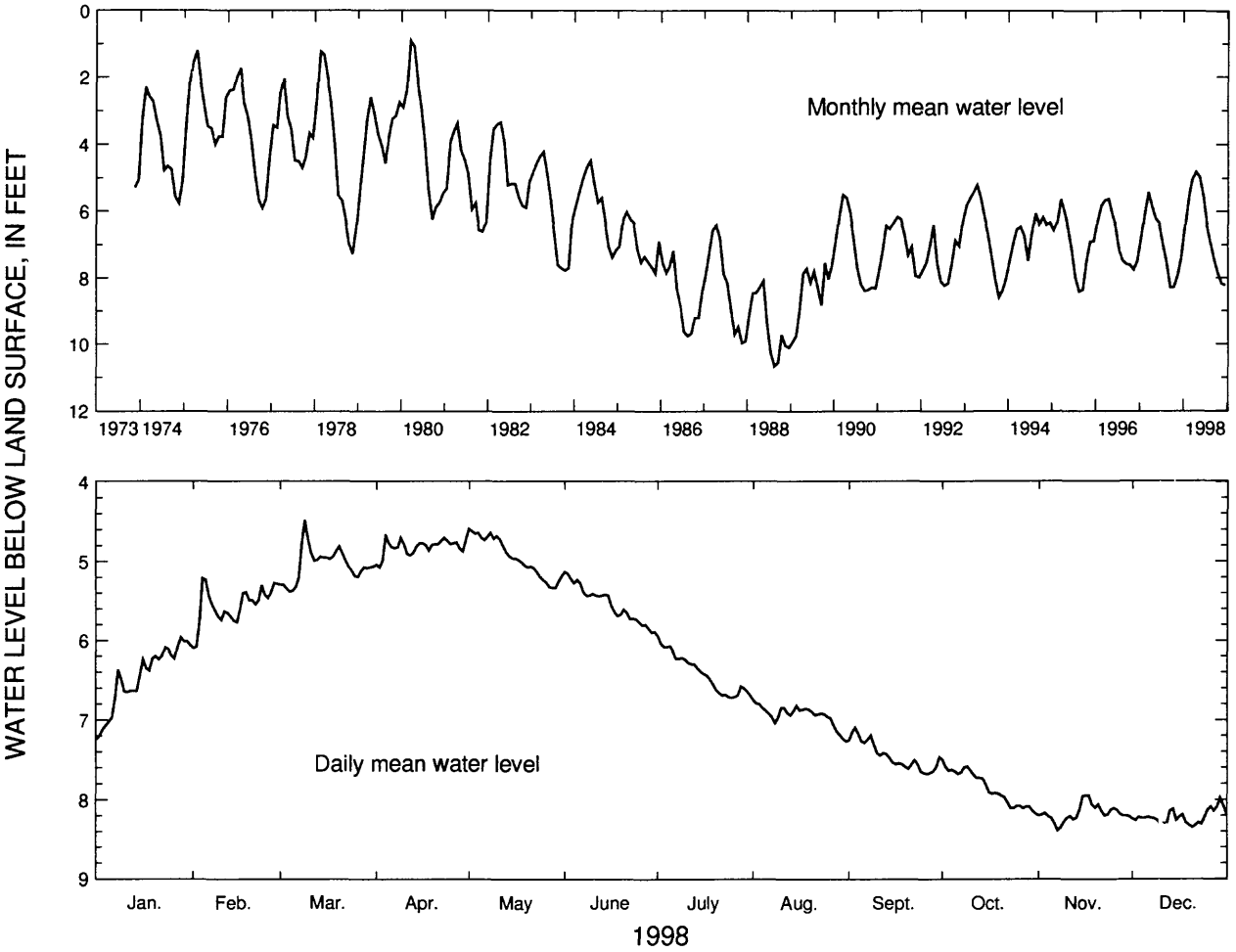
1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-0.78	-1.01	-1.46	-1.07	-0.97	-0.83	-0.54	-0.51	-0.41	-0.36	-0.67	-0.92
MEAN	-0.69	-0.83	-0.83	-0.90	-0.87	-0.72	-0.49	-0.44	-0.37	-0.33	-0.39	-0.40
LOW	-0.52	-0.71	-0.76	-0.82	-0.78	-0.62	-0.44	-0.40	-0.35	-0.32	-0.33	-0.34

SUMMARY FOR 1998 HIGH -1.46 (Mar. 8, 1998) MEAN -0.60 LOW -0.32 (Oct. 15-16,23,31, 1998)

[Negative value indicates water level above land surface]

Figure 144. Water level in observation well 09JJ02, Cherokee County.

IDENTIFICATION NUMBER.—10DD02.
LOCATION.—Lat 33°42'07", long 84°25'48", Hydrologic Unit 03130002.
SITE NAME.—U.S. Army, Fort McPherson.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Crystalline rock (biotite gneiss).
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 12 in., depth 338 ft, cased to 41 ft, open hole.
DATUM.—Altitude of land-surface datum is 1,013 ft.
REMARKS.—None.
PERIOD OF RECORD.—November 1973 to current year. Continuous record since November 1973.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.10 ft below land-surface datum, March 30, 1980; lowest, 10.95 ft below land-surface datum, September 2, 1988.

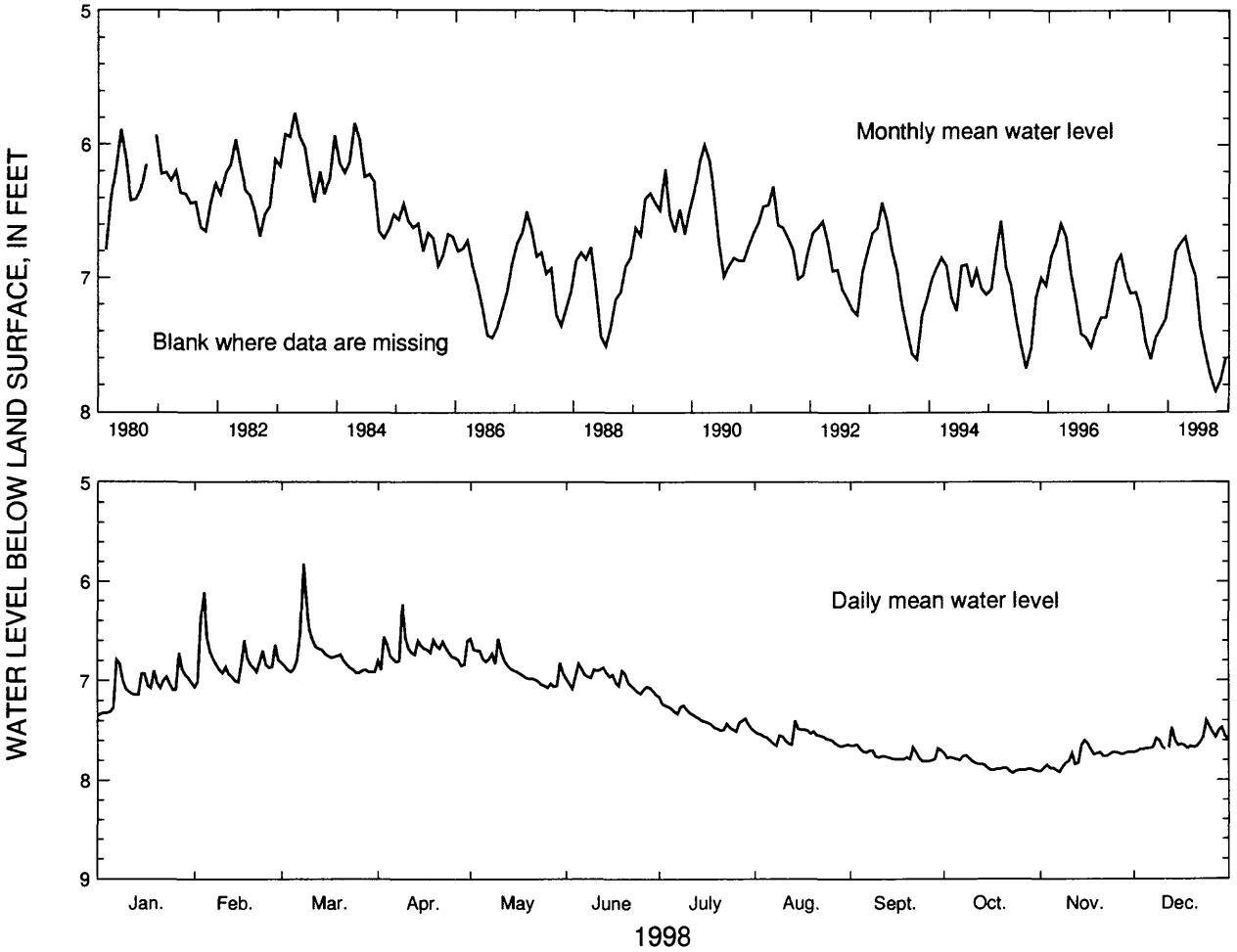


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	5.96	5.21	4.48	4.66	4.59	5.13	5.94	6.75	7.10	7.50	7.95	7.98
MEAN	6.46	5.55	5.04	4.81	4.95	5.54	6.41	6.94	7.46	7.86	8.17	8.22
LOW	7.24	6.10	5.38	5.07	5.33	5.90	6.72	7.27	7.68	8.18	8.39	8.35

SUMMARY FOR 1998 HIGH 4.48 (Mar. 9, 1998) MEAN 6.46 LOW 8.39 (Nov. 7, 1998)

Figure 145. Water level in observation well 10DD02, Fulton County.

IDENTIFICATION NUMBER.—11FF04.
LOCATION.—Lat 33°55'17", long 84°16'40", Hydrologic Unit 03130001.
SITE NAME.—U.S. Geological Survey, test well 5.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Crystalline rock.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 620 ft, cased to 36 ft, open hole.
DATUM.—Altitude of land-surface datum is 950 ft.
REMARKS.—None.
PERIOD OF RECORD.—February 1980 to current year. Continuous record since February 1980.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 4.98 ft below land-surface datum, March 17, 19[illegible]; lowest, 7.93 ft below land-surface datum, October 23, 1998.

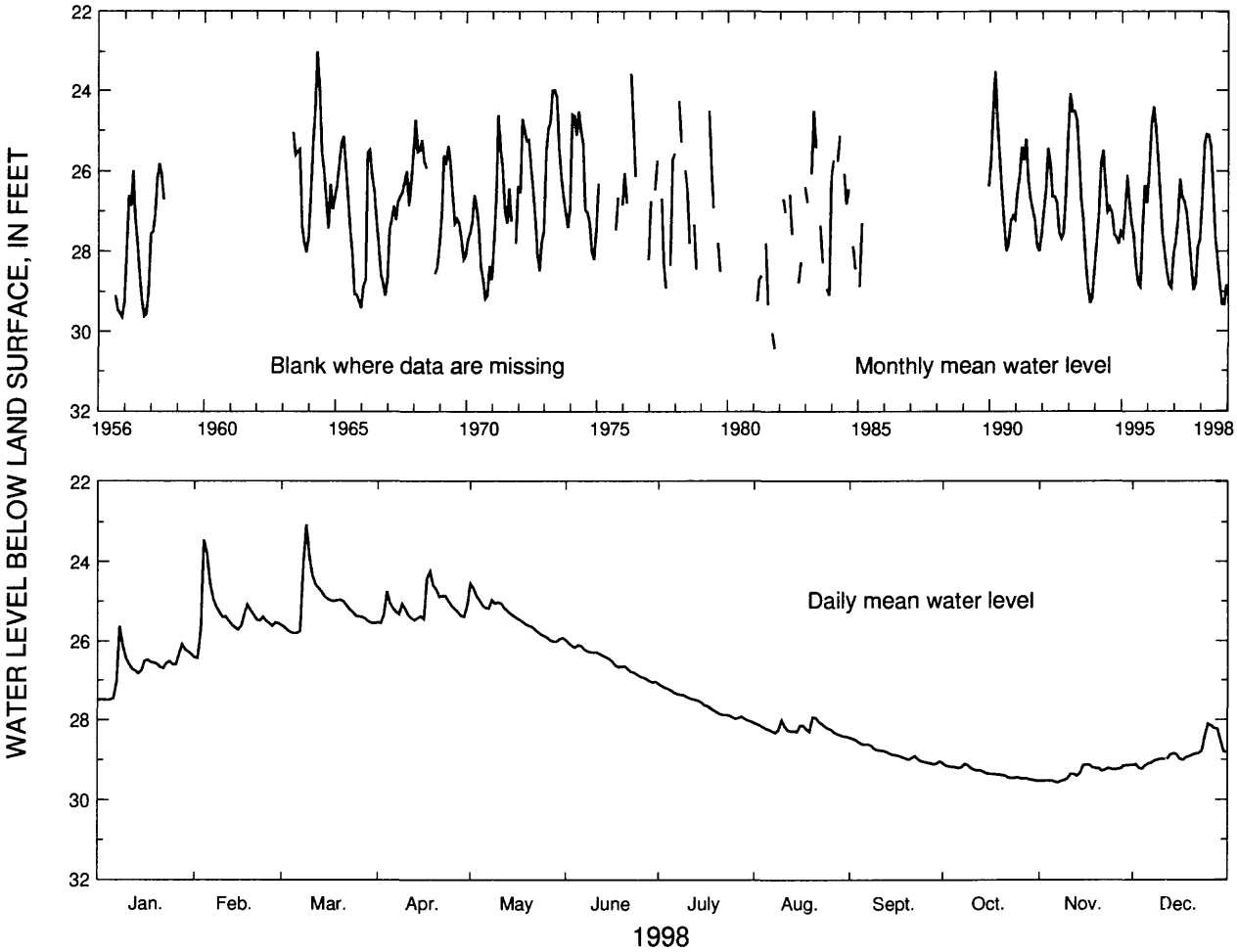


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	6.72	6.11	5.82	6.23	6.58	6.83	7.16	7.40	7.64	7.73	7.60	7.40
MEAN	7.06	6.80	6.74	6.69	6.87	6.99	7.38	7.57	7.74	7.85	7.77	7.61
LOW	7.35	7.06	6.92	6.89	7.07	7.14	7.51	7.66	7.81	7.93	7.92	7.72

SUMMARY FOR 1998 HIGH 5.82 (Mar. 8, 1998) MEAN 7.26 LOW 7.93 (Oct. 23, 1998)

Figure 146. Water level in observation well 11FF04, DeKalb County.

IDENTIFICATION NUMBER.—12JJ04.
LOCATION.—Lat 34°21′27″, long 84°08′34″, Hydrologic Unit 03150104.
SITE NAME.—U.S. Geological Survey, test well 1.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Crystalline rock.
WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 399 ft, cased to 80 ft, open hole.
DATUM.—Altitude of land-surface datum is 1,040 ft.
REMARKS.—None.
PERIOD OF RECORD.—August 1956 to current year. Continuous record August 1956 to June 1958, May 1963 to January 1975, and since December 1989.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 19.29 ft below land-surface datum, April 8, 1964; lowest, 30.42 ft below land-surface datum, October 13, 1981.

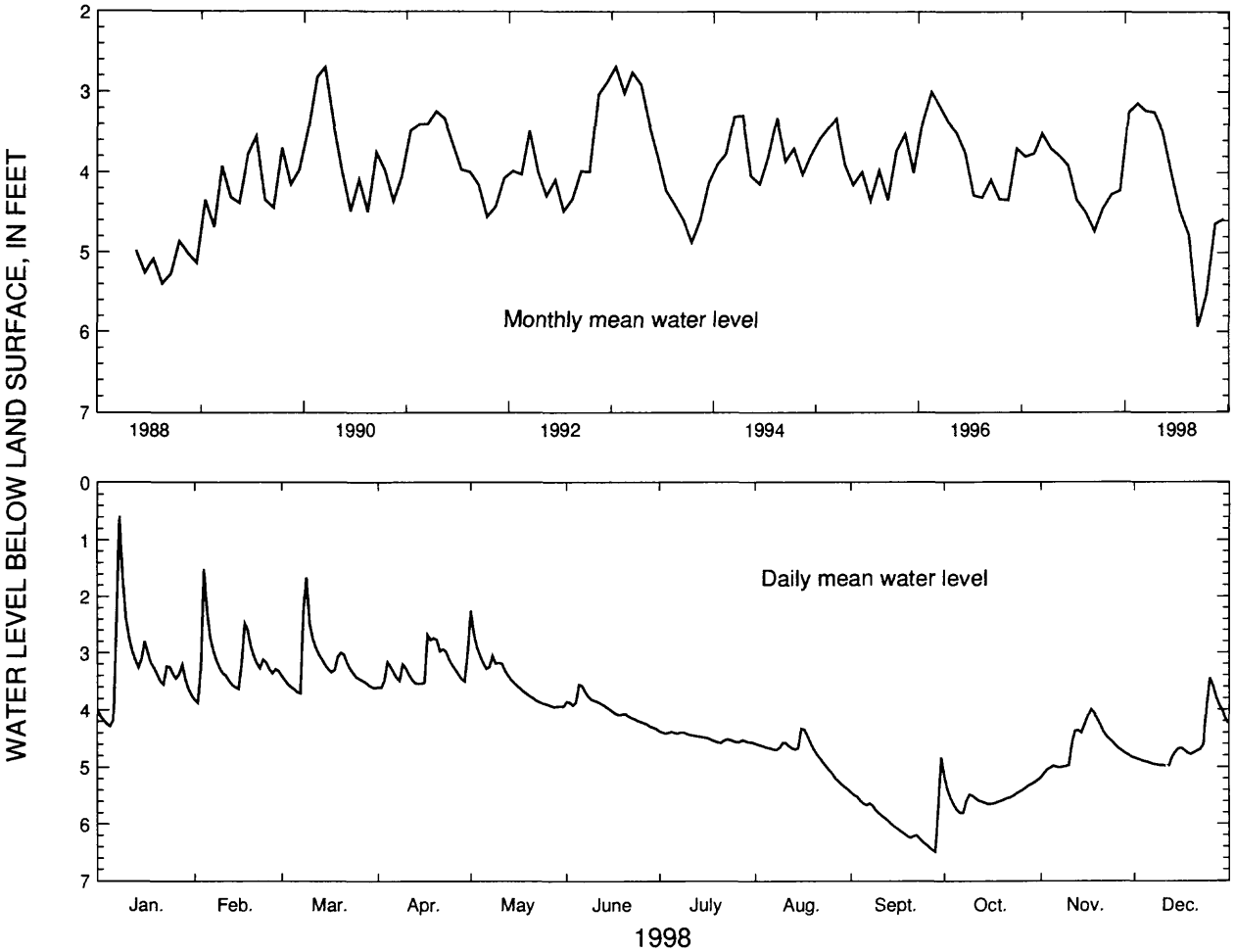


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	25.62	23.45	23.07	24.24	24.55	25.97	27.10	27.94	28.45	29.09	29.14	29.11
MEAN	26.68	25.34	25.10	25.12	25.41	26.52	27.62	28.21	28.84	29.33	29.34	29.84
LOW	27.50	26.43	25.80	25.54	26.01	27.06	28.04	28.43	29.12	29.53	29.57	29.23

SUMMARY FOR 1998 HIGH 23.07 (Mar. 9, 1998) MEAN 27.21 LOW 29.57 (Nov. 7, 1998)

Figure 147. Water level in observation well 12JJ04, Dawson County.

IDENTIFICATION NUMBER.—16MM03.
LOCATION.—Lat 34°43'14", long 83°43'32", Hydrologic Unit 03130001.
SITE NAME.—Unicoi State Park, well 4.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Crystalline rock.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 6.25 in., depth 400 ft, cased to 72 ft, open hole.
DATUM.—Altitude of land-surface datum is 1550 ft.
REMARKS.—None.
PERIOD OF RECORD.—May 1988 to current year. Continuous record since May 1988.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 0.58 ft above land-surface datum, January 8, 1998; lowest, 6.49 ft below land-surface datum, September 28, 1998.

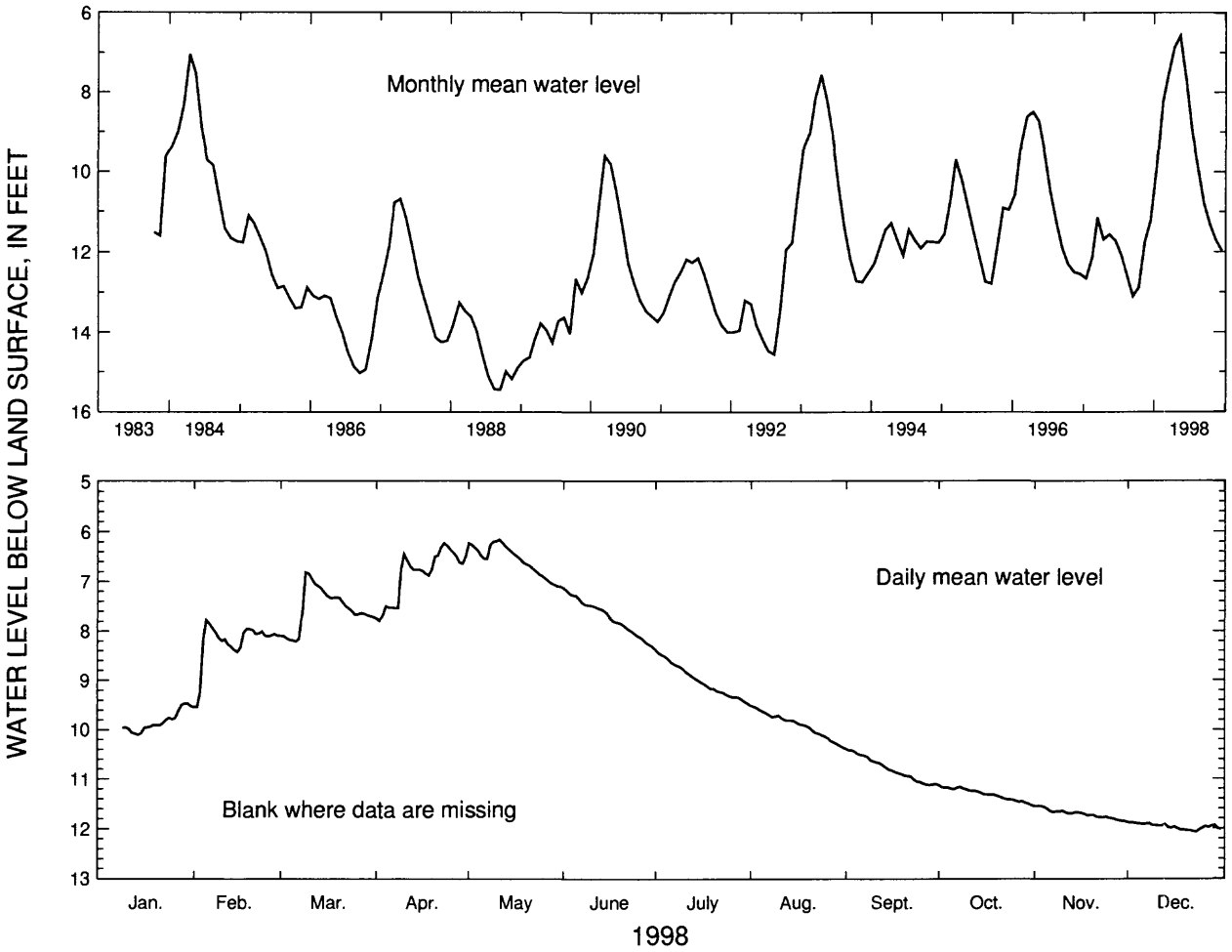


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	0.58	1.51	1.66	2.68	2.25	3.56	4.37	4.33	4.83	5.16	4.00	3.45
MEAN	3.25	3.14	3.23	3.25	3.49	4.00	4.48	4.78	5.94	5.52	4.64	4.58
LOW	4.28	3.87	3.71	3.61	3.95	4.33	4.58	5.39	6.49	5.80	5.19	4.98

SUMMARY FOR 1998 HIGH 0.58 (Jan. 8, 1998) MEAN 4.20 LOW 6.49 (Sept. 28, 1998)

Figure 148. Water level in observation well 16MM03, White County.

IDENTIFICATION NUMBER.—19HH12.
LOCATION.—Lat 34°10′20″, long 83°20′17″, Hydrologic Unit 03060104.
SITE NAME.—Meadowlake Estates.
INSTRUMENTATION.—Electronic data recorder.
AQUIFER.—Crystalline rock.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 6 in., depth 185 ft, cased to 50 ft, open hole.
DATUM.—Altitude of land-surface datum is 800 ft.
REMARKS.—Water-level data for period, January 1-8, 1998, are missing.
PERIOD OF RECORD.—October 1983 to current year. Continuous record since October 1983.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 6.16 ft below land-surface datum, May 11, 1998; lowest, 15.56 ft below land-surface datum, September 2-3, 1988.

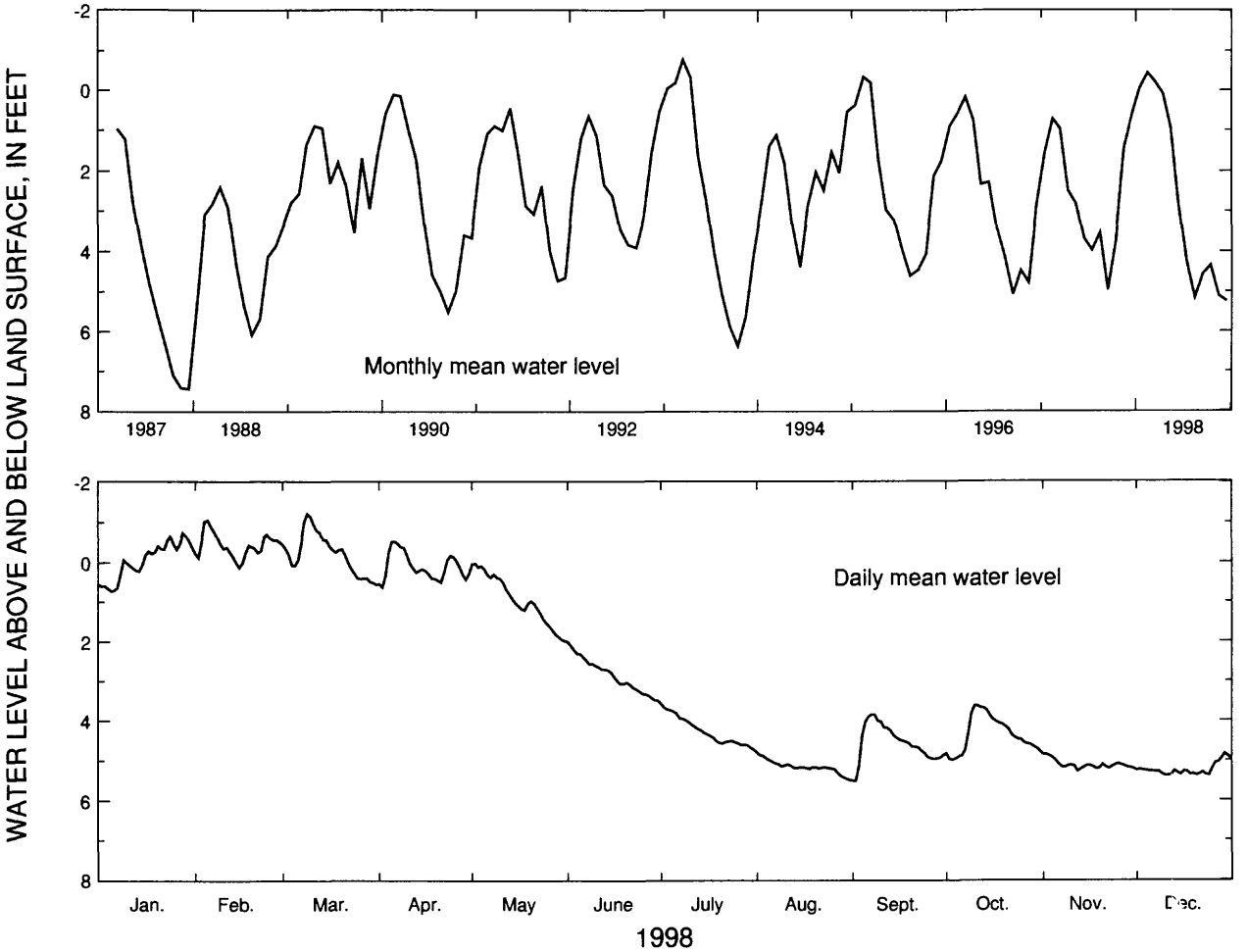


1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	------	7.78	6.82	6.23	6.16	7.13	8.38	9.51	10.39	11.13	11.55	11.88
MEAN	------	8.24	7.55	6.86	6.58	7.71	8.99	9.90	10.80	11.31	11.71	11.97
LOW	------	9.54	8.21	7.79	7.11	8.32	9.47	10.36	11.13	11.53	11.86	12.07

SUMMARY FOR 1998 HIGH 6.16 (May 11, 1998) MEAN 9.29 LOW 12.07 (Dec. 23, 1998)

Figure 149. Water level in observation well 19HH12, Madison County.

IDENTIFICATION NUMBER.—21BB04.
LOCATION.—Lat 33°28′08″, long 83°01′02″, Hydrologic Unit 03070101.
SITE NAME.—Charles Veazey.
INSTRUMENTATION.—Analog recorder.
AQUIFER.—Crystalline rock.
WELL CHARACTERISTICS.—Drilled unused supply well, diameter 6 in., depth 497 ft, cased to 15 ft, open hole.
DATUM.—Altitude of land-surface datum is 675 ft.
REMARKS.—None.
PERIOD OF RECORD.—March 1987 to current year. Continuous record since March 1987.
EXTREMES FOR PERIOD OF RECORD.—Highest water level, 1.25 ft above land-surface datum, March 28, 1993; lowest, 7.58 ft below land-surface datum, December 7, 1987.



1998	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
HIGH	-0.74	-1.06	-1.22	-0.53	0.03	2.01	3.57	4.79	3.85	3.63	4.85	4.84
MEAN	-0.05	-0.44	-0.22	0.09	0.94	2.84	4.25	5.16	4.56	4.35	5.12	5.25
LOW	0.72	0.12	0.55	0.62	1.98	3.49	4.72	5.49	5.51	4.99	5.28	5.39

SUMMARY FOR 1998 HIGH -1.22 (Mar. 9, 1998) MEAN 2.67 LOW 5.51 (Sept. 2, 1998)

[Negative value indicates water level above land surface]

Figure 150. Water level in observation well 21BB04, Greene County.

CHLORIDE CONCENTRATION IN WATER FROM THE FLORIDAN AQUIFER SYSTEM

Chloride concentration in water from the Floridan aquifer system has been monitored in coastal Georgia since the 1950's. During 1998, water samples were collected from 81 wells that tap the Floridan aquifer system in the Savannah and Brunswick areas and analyzed for chloride concentration. Graphs of chloride concentration in water for 14 of these wells (fig. 151 and 154; table 5) are shown in figures 152, 153, 155, 156, and 157. Although chloride concentration may fluctuate in the intervals between sample-collection periods, measured points on these plots are connected by straight lines to assist visualization.

Chloride concentration in water from the Upper Floridan aquifer in most of the coastal Georgia area is less than 40 milligrams per liter (mg/L) (Clarke and others, 1990, p. 48), which is within the 250 mg/L drinking-water standard established by the Georgia Department of Natural Resources (1977) and the U.S. Environmental Protection Agency (1990). Chloride concentration in water from the Upper Floridan aquifer that exceeds the drinking-water standard has been detected in the Brunswick area. Water in the Lower Floridan aquifer generally has high chloride concentration in the Savannah and Brunswick areas. Chloride concentration in water from the Fernandina permeable zone at the base of the Lower Floridan aquifer has been measured as high as 30,000 mg/L (Krause and Randolph, 1989, p. D51).

Table 5. Observation wells for which chloride-concentration graphs are included in this report
[GGS, Georgia Geologic Survey; USGS, U.S. Geological Survey]

County	Aquifer	USGS Site Identification Number	Well Identification number	Site name	Open interval (in feet)
Chatham	Lower Floridan	320151080540403	38Q196	USGS, test well 1, point 2	870-925
Chatham	Lower Floridan	320122080510202	39Q017	USGS, test well 7, point 1	710-745
Chatham	Lower Floridan	320122080510203	39Q018	USGS, test well 7, point 2	630-670
Chatham	Lower Floridan	320151080540502	38Q004	USGS, test well 4	606-657
Chatham	Upper Floridan	320622081063701	37Q185	GGS, Hutchinson Island, test well 1	274-360
Chatham	Upper Floridan	315906081011202	37P114	Skidaway Institute, test well 2	262-400
Glynn	Lower Floridan	310750081292001	34H399	USGS, test well 19	1,075-1,218
Glynn	Lower Floridan	310818081294201	34H391	USGS, test well 16	1,070-1,159
Glynn	Upper Floridan, lower water-bearing zone	310822081294201	34H403	USGS, test well 24	788-982
Glynn	Upper Floridan, upper water-bearing zone	311020081295205	34H469	USGS, test well 2	540-566
Glynn	Upper Floridan, upper water-bearing zone	311007081301702	33H133	USGS, test well 6	520-790
Glynn	Upper Floridan, upper water-bearing zone	311016081294202	34H427	E.M. Champion, well 2	500-640
Glynn	Upper Floridan, upper water-bearing zone	310825081294201	34H393	USGS, test well 17	615-723
Glynn	Upper Floridan, lower water-bearing zone	311007081301701	33H127	USGS, test well 3	823-925

Savannah Area

During 1998, thirteen wells were pumped and sampled in Chatham County (fig. 151), six of which are summarized in figure 152 and 153. Data from these wells indicate that chloride concentration generally increases with depth below land surface and is not changing appreciably with time.

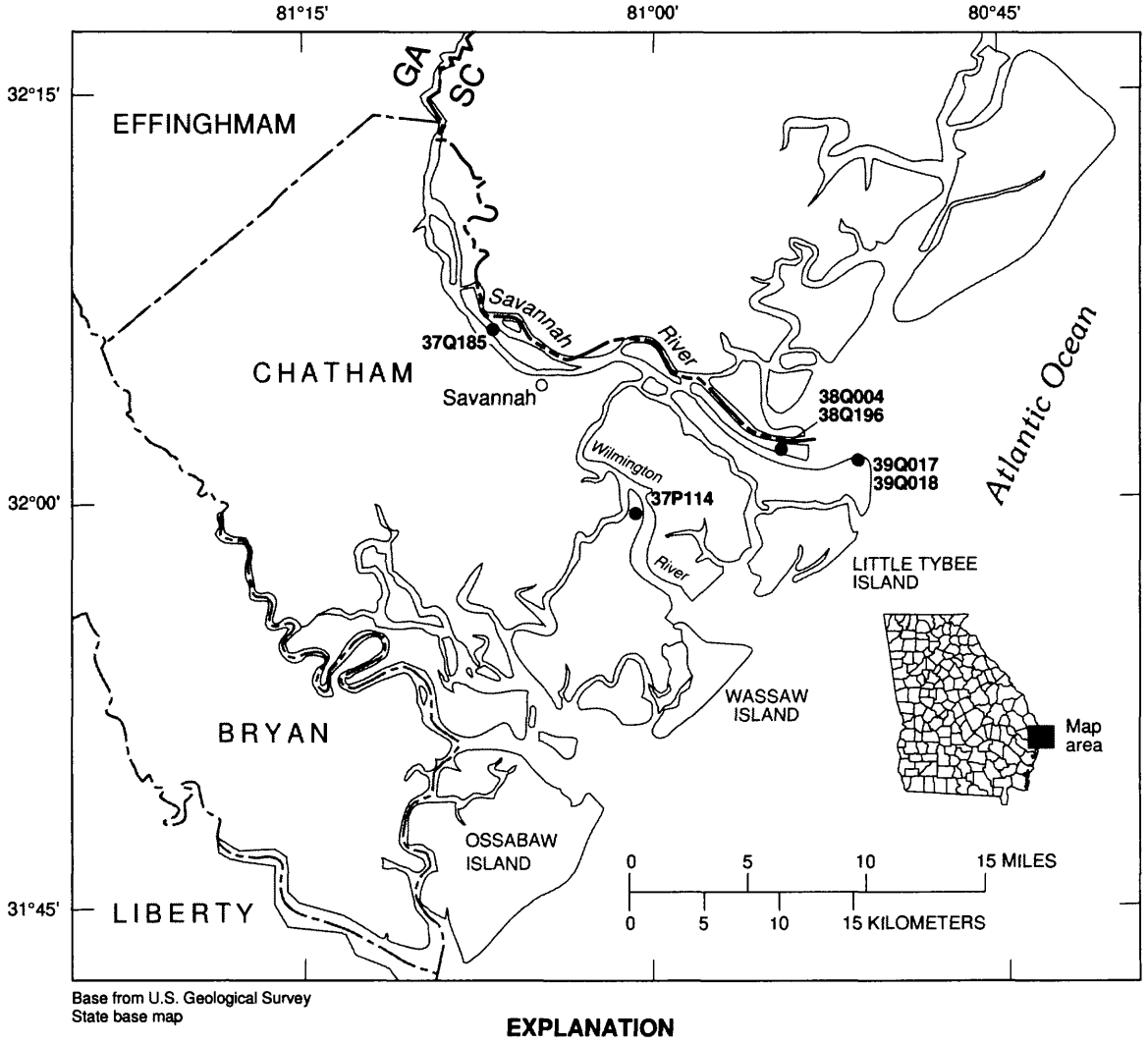


Figure 151. Location of chloride-monitoring wells completed in Floridan aquifer system, Savannah area.

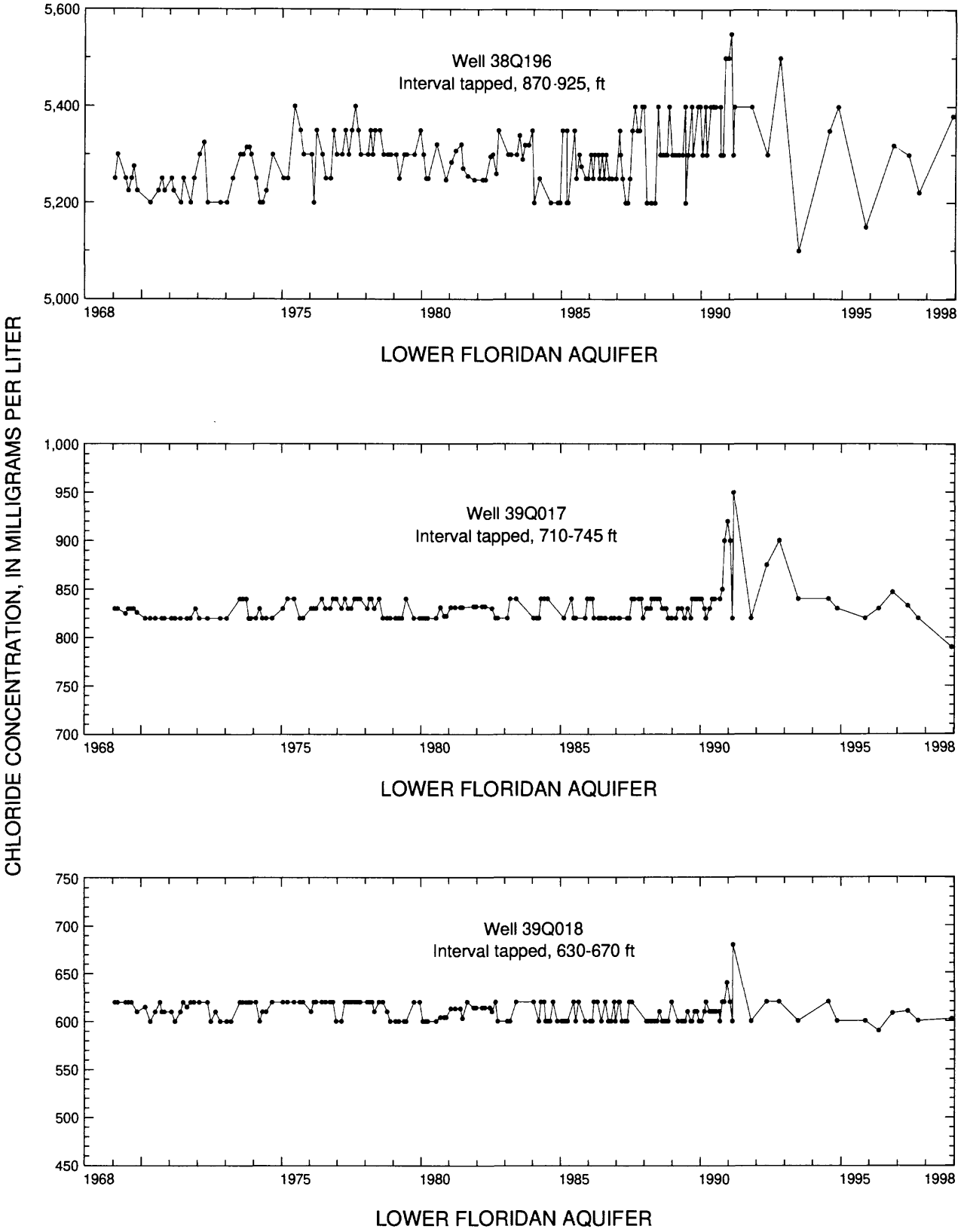


Figure 152. Chloride concentration in water from the Lower Floridan aquifer in the Savannah area.

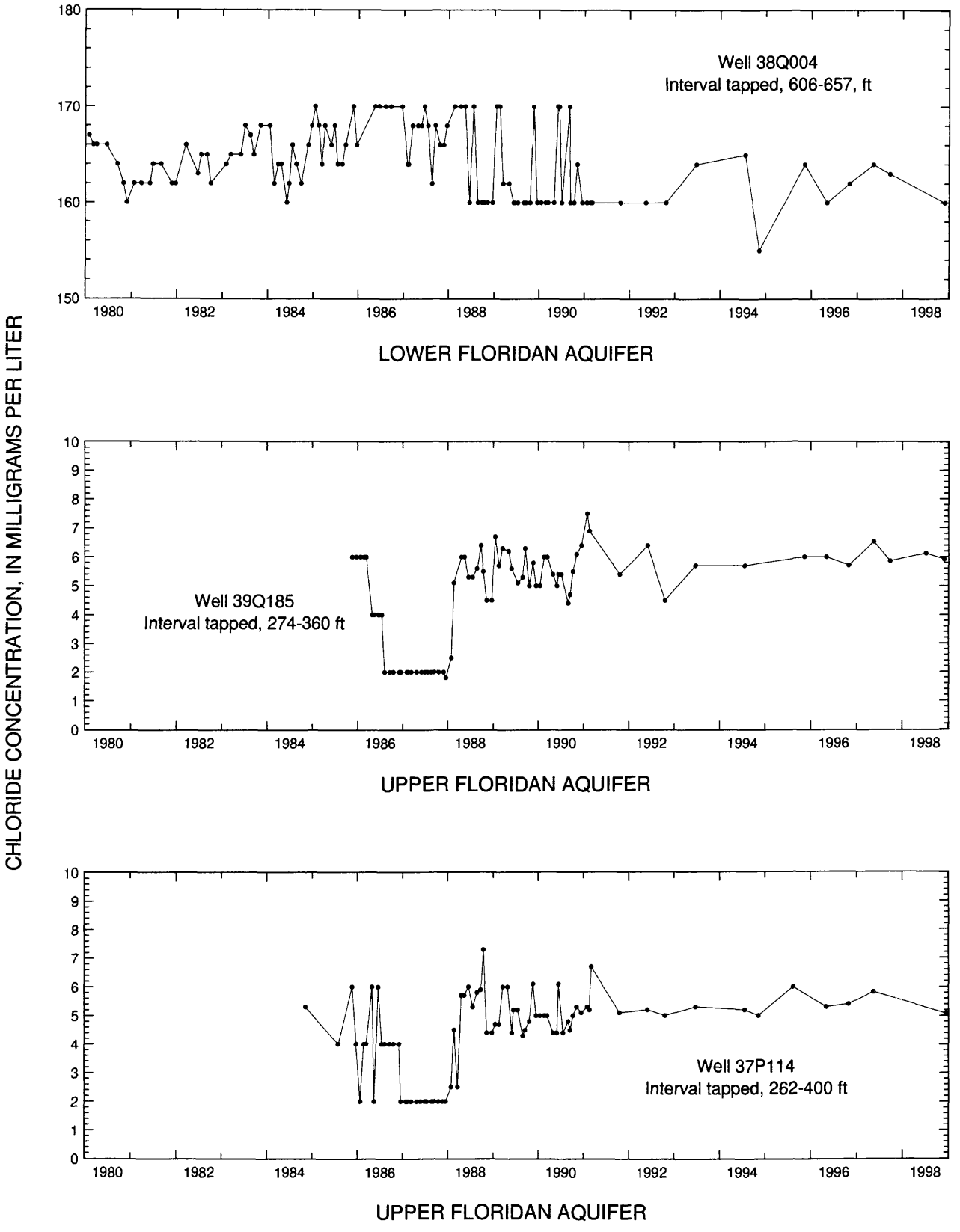


Figure 153. Chloride concentration in water from the Upper and Lower Floridan aquifers in the Savannah area.

Brunswick Area

Since pumping began in the Brunswick area in the late 1800's, ground-water withdrawal has lowered the water level in the Upper Floridan aquifer (Krause and Randolph, 1989). This water-level decline has allowed saltwater to migrate upward into the brackish-water zone of the Lower Floridan aquifer and into the Upper Floridan aquifer in Brunswick from the Fernandina permeable zone, which is at the base of the Lower Floridan aquifer (Krause and Randolph, 1989, p. D51). Chloride concentration in water from the upper water-bearing zone of the Upper Floridan aquifer is greater than 2,000 mg/L in parts of Brunswick.

In the Brunswick, Glynn County area, 65 wells were pumped and sampled during 1998 for chloride analysis. Graphs of chloride concentration in water from eight wells (fig. 154) tapping various zones of the Floridan aquifer system are shown in figures 155, 156, and 157.

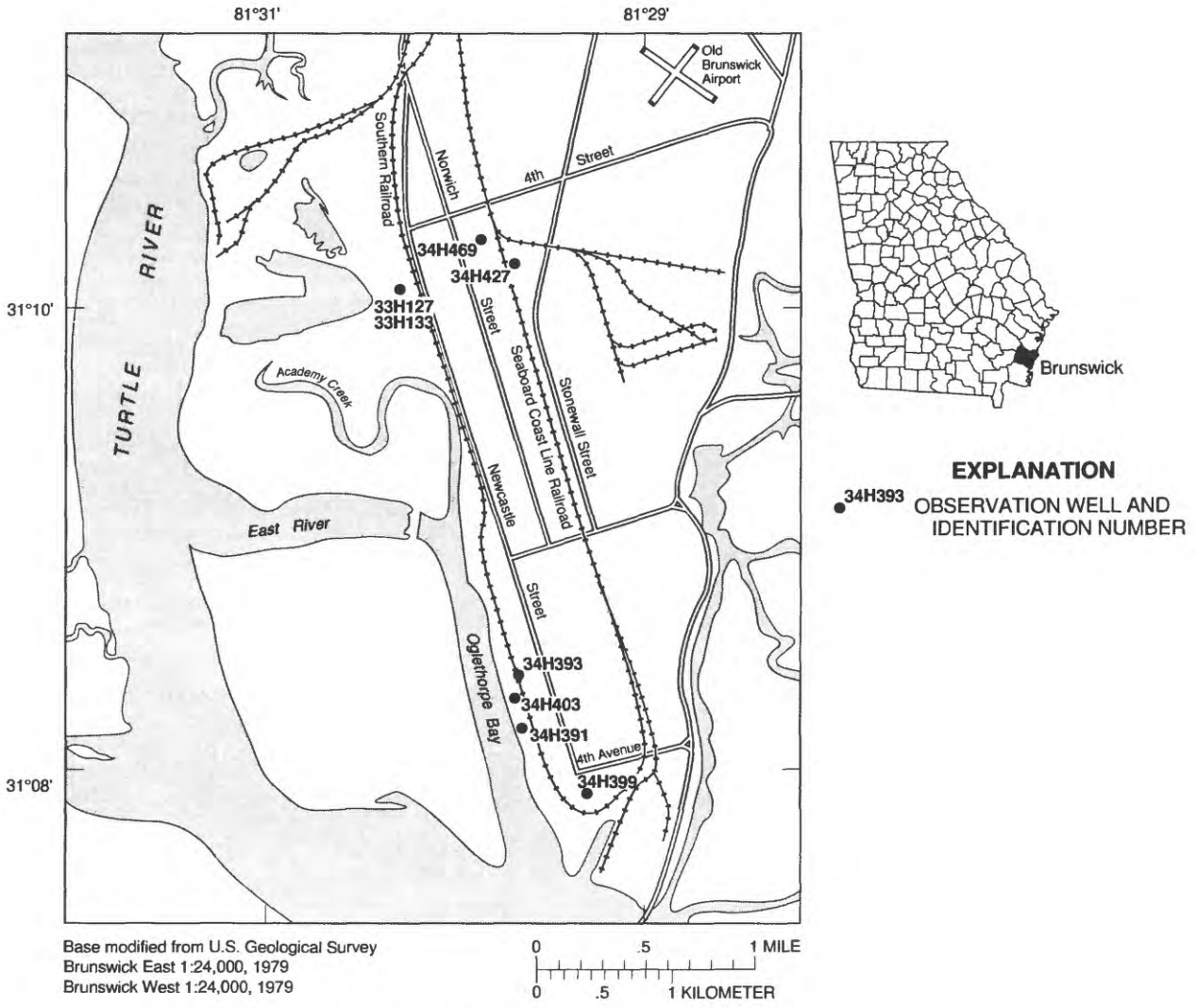


Figure 154. Location of chloride-monitoring wells completed in Floridan aquifer system, Brunswick area.

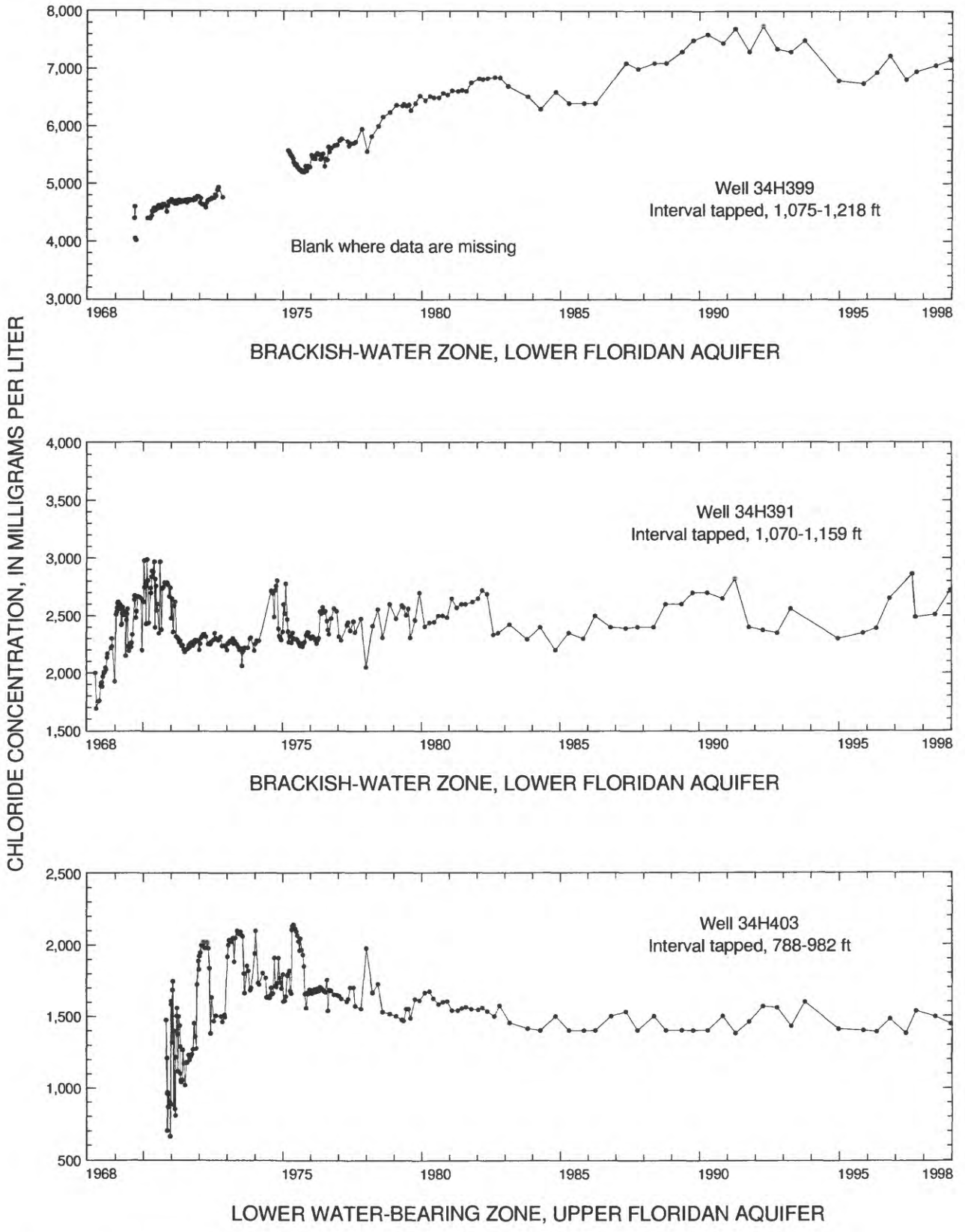


Figure 155. Chloride concentration in water from the Floridan aquifer system in the Brunswick area.

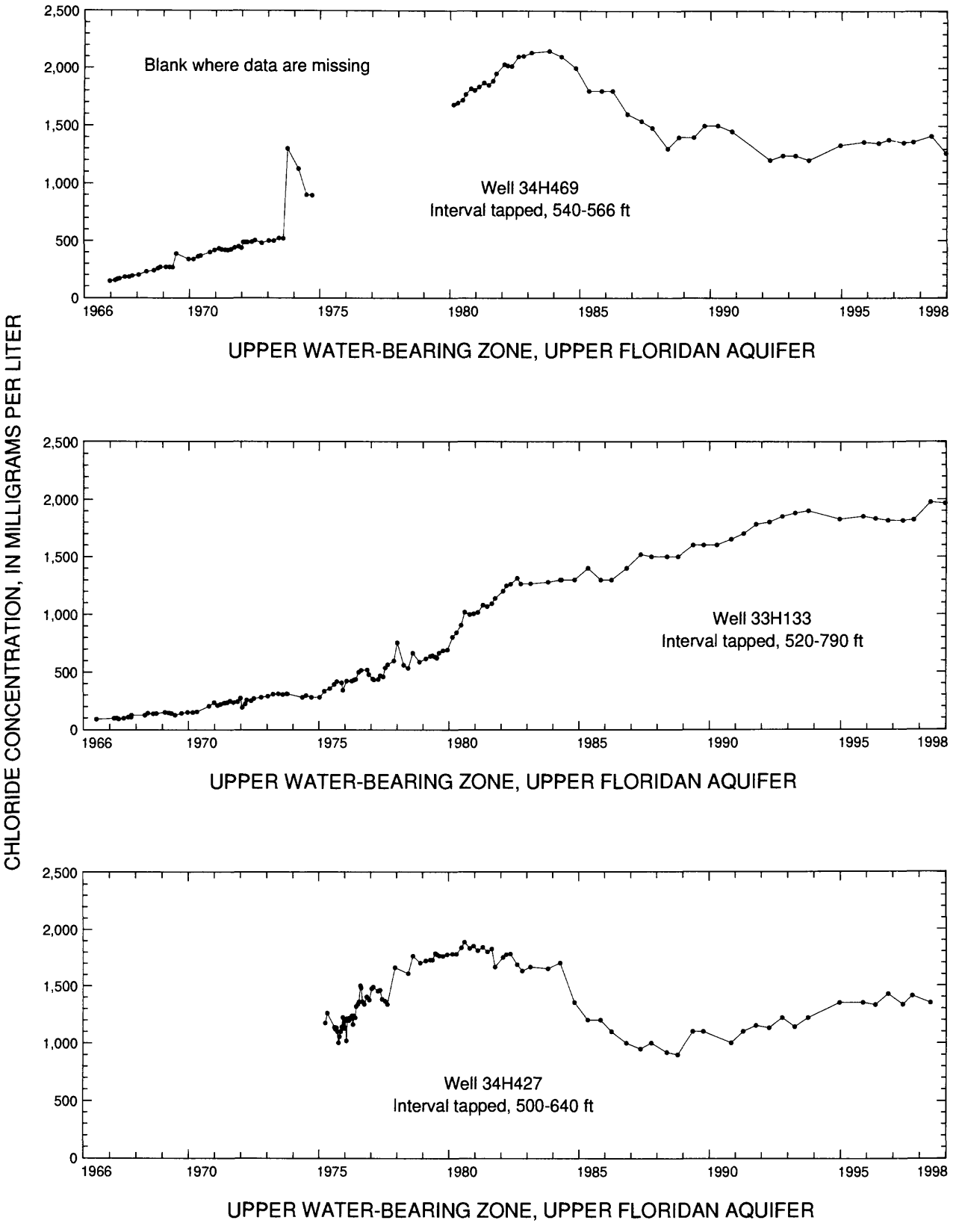


Figure 156. Chloride concentration in water from the Floridan aquifer system in the Brunswick area.

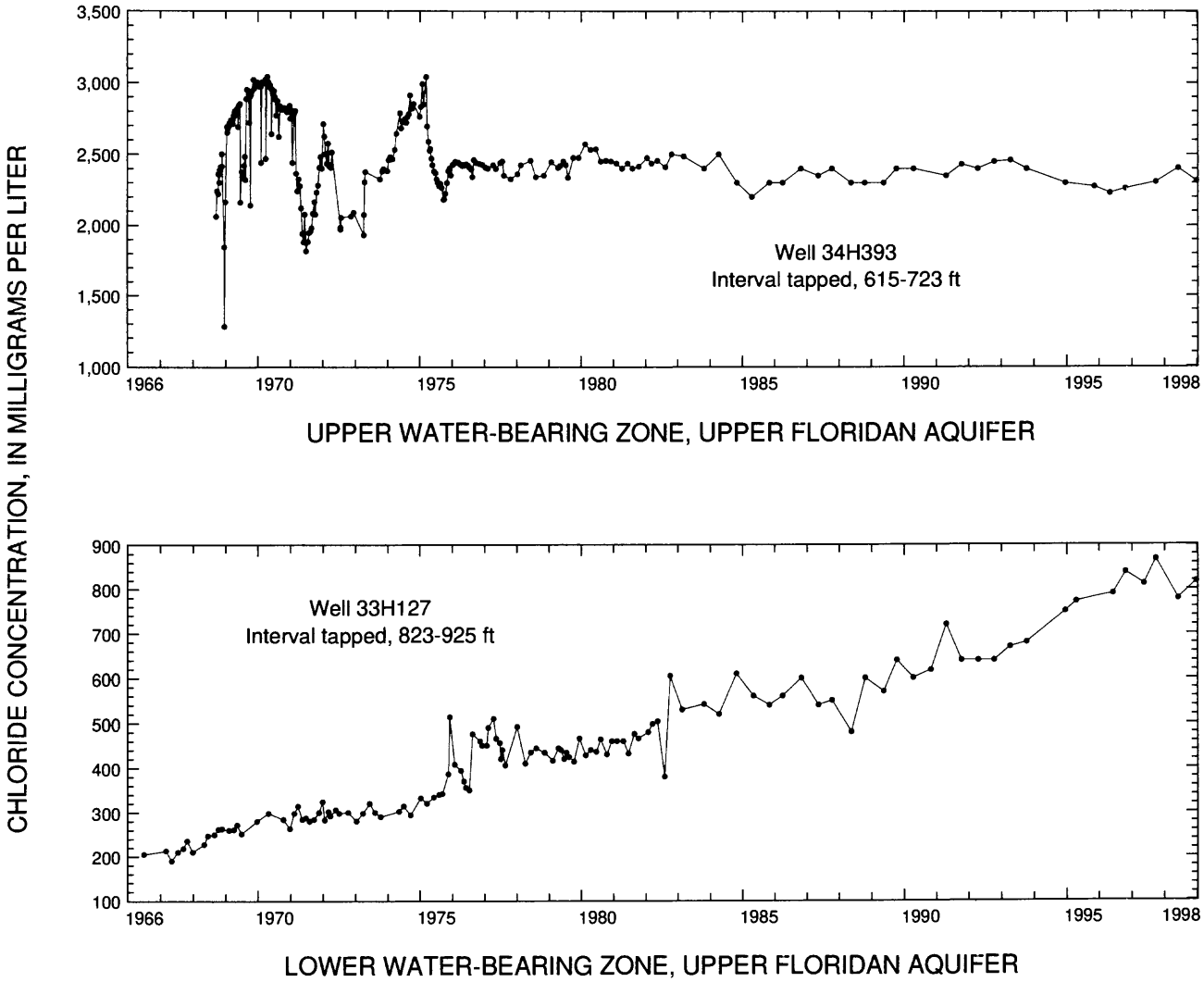


Figure 157. Chloride concentration in water from the Floridan aquifer system in the Brunswick area.

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