



Water-Data Report 2010

**354302081433201 Local number BK-126, GLEN ALPINE RESEARCH STATION NEAR MORGANTON, NC  
(BEDROCK)**

Piedmont and Blue Ridge crystalline-rock aquifers  
Bedrock Undifferentiated

Burke County, NC

LOCATION.--Lat 35°43'02", long 81°43'32" referenced to North American Datum of 1983, Burke County, NC, Hydrologic Unit 03050101, 2.2mi southwest of Morganton. Owner: NCDENR (North Carolina Department of Environment and Natural Resources).

**GROUNDWATER RECORDS**

WELL CHARACTERISTICS.--Drilled observation well, drilled to 228 ft, diameter 6 in., cased to 55 ft, open borehole interval (in bedrock) from 55 to 228 ft.

DATUM.--Land surface datum is 1,038 ft above National Geodetic Vertical Datum of 1929. Measuring point: floor of instrument shelter on top of casing, 1.77 ft above land-surface datum, January 2000 to present.

PERIOD OF RECORD.--January 2000 to current year. Records for January 2000 to August 4, 2008 furnished by NCDENR, Division of Water Resources.

GAGE.--Water-level recorder collecting data at 60 minute intervals. Satellite telemetry at site.

REMARKS.--Well is part of the Catawba-Wateree Drought Monitoring Network.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 5.18 ft below land-surface datum, April 11, 2003; lowest water level recorded 10.91 ft below land-surface datum, August 25, 2008.

CORRECTIONS.--The datum published in WDR-US-2009 was incorrect. The correct datum is 1,038 ft above National Geodetic Vertical Datum of 1929.

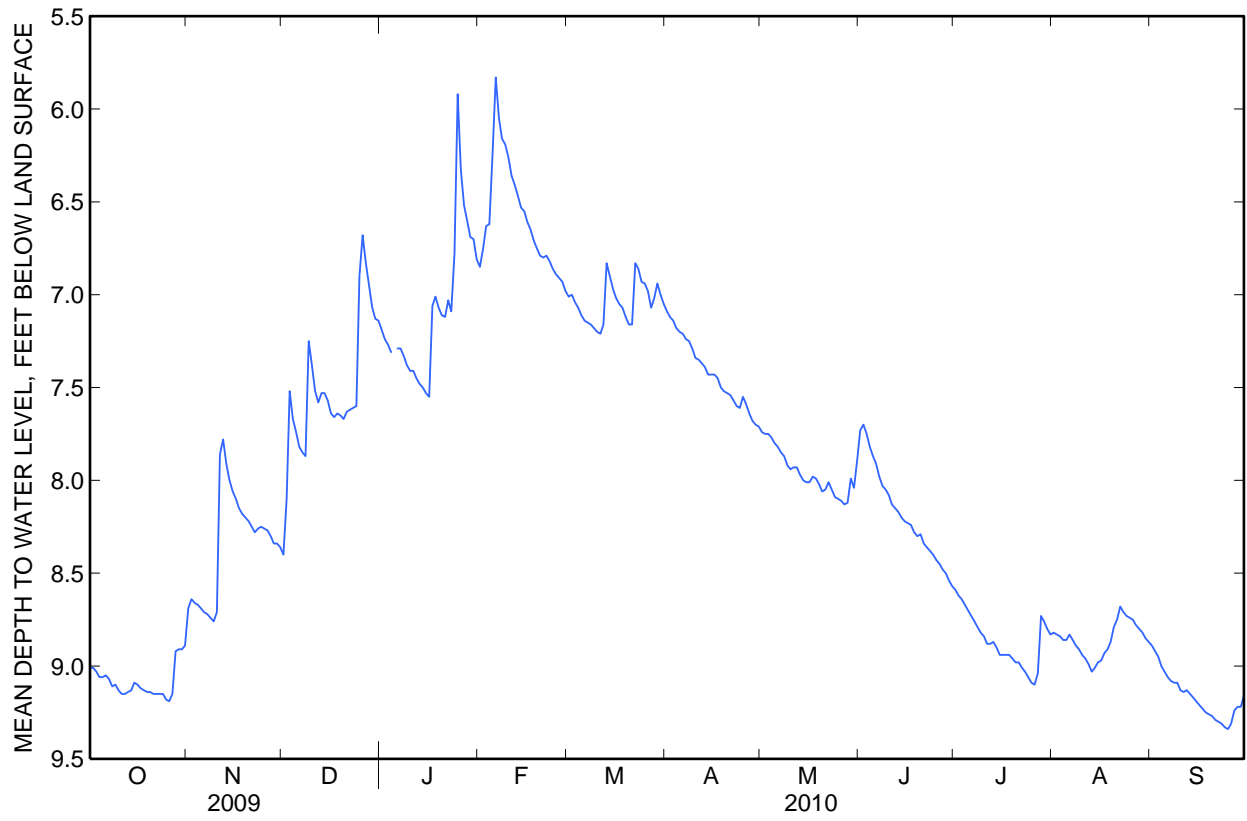
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**DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**  
**DAILY MEAN VALUES**

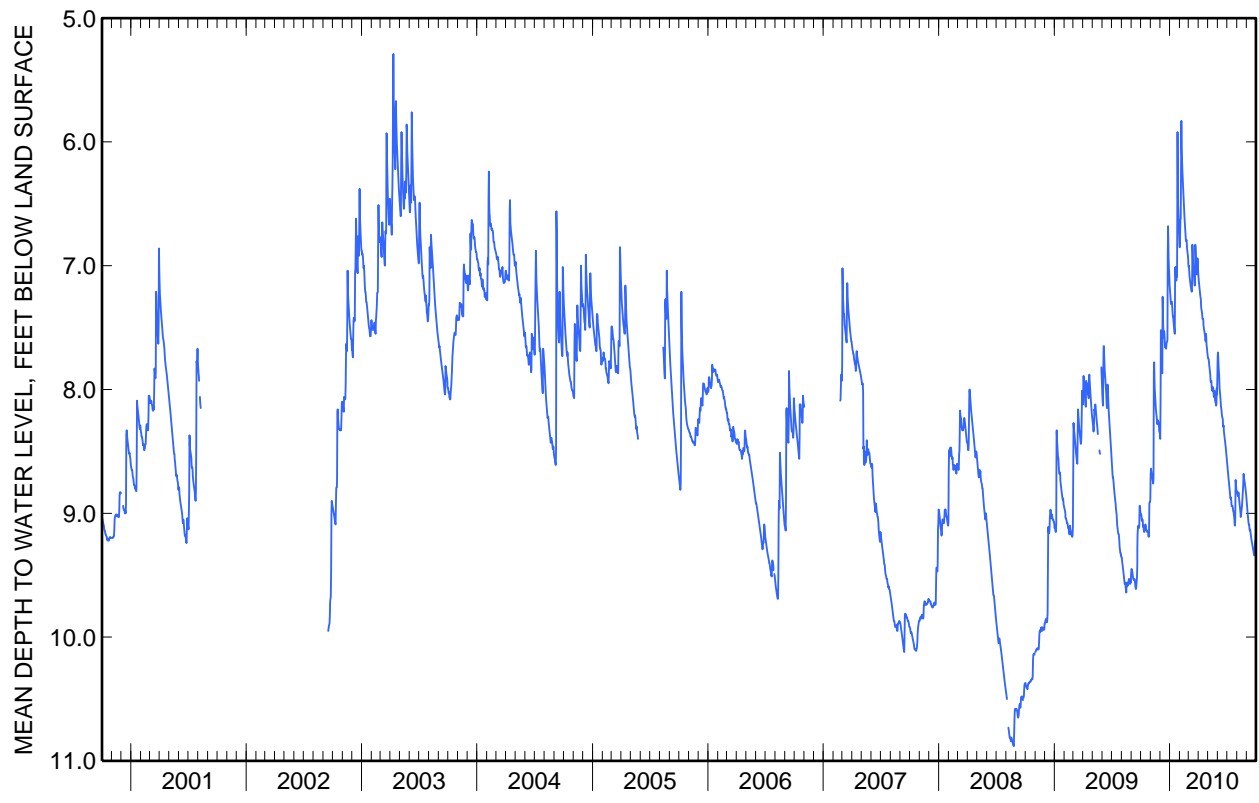
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9.01	8.69	8.40	7.19	6.85	7.01	7.09	7.74	7.73	8.59	8.82	8.89
2	9.01	8.64	8.10	7.24	6.75	7.00	7.12	7.75	7.70	8.62	8.83	8.92
3	9.03	8.66	7.52	7.27	6.63	7.04	7.14	7.75	7.75	8.64	8.84	8.95
4	9.06	8.67	7.67	7.31	6.62	7.07	7.18	7.77	7.82	8.67	8.86	9.00
5	9.06	8.69	7.74	---	6.24	7.11	7.20	7.80	7.87	8.70	8.86	9.03
6	9.05	8.71	7.82	7.29	5.83	7.14	7.21	7.82	7.91	8.73	8.83	9.06
7	9.07	8.72	7.85	7.29	6.05	7.15	7.24	7.85	7.98	8.76	8.86	9.08
8	9.11	8.74	7.87	7.33	6.16	7.16	7.25	7.87	8.03	8.79	8.89	9.09
9	9.10	8.76	7.25	7.38	6.19	7.18	7.29	7.92	8.05	8.82	8.91	9.09
10	9.13	8.71	7.38	7.41	6.26	7.20	7.34	7.94	8.08	8.84	8.94	9.13
11	9.15	7.86	7.52	7.41	6.36	7.21	7.35	7.93	8.13	8.88	8.96	9.14
12	9.15	7.78	7.58	7.45	6.41	7.16	7.37	7.93	8.15	8.88	8.99	9.13
13	9.14	7.91	7.53	7.48	6.47	6.83	7.39	7.97	8.17	8.87	9.03	9.15
14	9.13	8.00	7.53	7.50	6.53	6.90	7.43	8.00	8.20	8.90	9.01	9.17
15	9.09	8.06	7.57	7.53	6.55	6.97	7.43	8.01	8.22	8.94	8.98	9.19
16	9.10	8.10	7.64	7.55	6.61	7.02	7.43	8.01	8.23	8.94	8.97	9.21
17	9.12	8.15	7.66	7.06	6.65	7.05	7.45	7.98	8.24	8.94	8.93	9.23
18	9.13	8.18	7.64	7.01	6.71	7.07	7.50	7.99	8.28	8.94	8.91	9.25
19	9.14	8.20	7.65	7.07	6.75	7.12	7.52	8.02	8.30	8.96	8.87	9.26
20	9.14	8.22	7.67	7.11	6.79	7.16	7.53	8.06	8.29	8.98	8.79	9.27
21	9.15	8.25	7.63	7.12	6.80	7.16	7.54	8.05	8.34	8.98	8.75	9.29
22	9.15	8.28	7.62	7.03	6.79	6.83	7.57	8.01	8.36	9.01	8.68	9.30
23	9.15	8.26	7.61	7.09	6.82	6.86	7.60	8.05	8.38	9.03	8.71	9.31
24	9.15	8.25	7.60	6.78	6.86	6.93	7.61	8.09	8.40	9.06	8.73	9.33
25	9.18	8.26	6.90	5.92	6.89	6.94	7.55	8.10	8.43	9.09	8.74	9.34
26	9.19	8.27	6.68	6.33	6.91	6.98	7.59	8.11	8.45	9.10	8.75	9.31
27	9.15	8.30	6.83	6.52	6.93	7.07	7.64	8.13	8.48	9.04	8.78	9.24
28	8.92	8.34	6.95	6.60	6.98	7.02	7.68	8.12	8.50	8.73	8.80	9.22
29	8.91	8.34	7.07	6.69	---	6.94	7.70	7.99	8.54	8.76	8.82	9.22
30	8.91	8.36	7.13	6.70	---	7.00	7.71	8.04	8.57	8.80	8.85	9.16
31	8.89	---	7.14	6.81	---	7.05	---	7.89	---	8.83	8.87	---
<b>Mean</b>	9.09	8.35	7.51	7.08	6.59	7.04	7.42	7.96	8.19	8.87	8.86	9.17
<b>Max</b>	9.19	8.76	8.40	7.55	6.98	7.21	7.71	8.13	8.57	9.10	9.03	9.34
<b>Min</b>	8.89	7.78	6.68	5.92	5.83	6.83	7.09	7.74	7.70	8.59	8.68	8.89

<b>Water Year 2010</b>	
<b>Mean</b>	8.02
<b>High</b>	5.83
<b>Low</b>	9.34

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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2010.

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 1 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Depth to water level, ft below land surface (72019)	Dissolved oxygen, water, unfiltered, mg/L (00300)	pH, water, unfiltered, laboratory, standard units (00403)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)	Temperature, water, °C (00010)
01-05-2010	1345	Ground water	Regular	738	-1.0	7.44	2.5	7.8	125	13.7

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 2 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO <sub>3</sub> (90410)	Bromide, water, filtered, mg/L (71870)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955)
01-05-2010	83	13.0	4.14	2.43	4.73	62	E .01	.83	E .08	26.3

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 3 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Sulfate, water, filtered, mg/L (00945)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Orthophosphate, water, filtered, mg/L as P (00671)	Total nitrogen, water, filtered, analytically determined, mg/L (62854)	Aluminum, water, filtered, μg/L (01106)	Aluminum, water, unfiltered, recoverable, μg/L (01105)	Cadmium, water, filtered, μg/L (01025)
01-05-2010	4.65	< .020	.12	< .002	.013	E .07	< 3.4	40	.37

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**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 4 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Cadmium, water, unfiltered, μg/L (01027)	Chromium, water, filtered, μg/L (01030)	Chromium, water, unfiltered, recoverable, μg/L (01034)	Copper, water, filtered, μg/L (01040)	Copper, water, unfiltered, recoverable, μg/L (01042)	Iron, water, filtered, μg/L (01046)	Lead, water, filtered, μg/L (01049)	Lead, water, unfiltered, recoverable, μg/L (01051)	Manganese, water, filtered, μg/L (01056)	Manganese, water, unfiltered, recoverable, μg/L (01055)
	01-05-2010	.40	.13	.43	< 1.0	E .88	E 4	1.10	9.89	.8

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 5 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Nickel, water, filtered, μg/L (01065)	Nickel, water, unfiltered, recoverable, μg/L (01067)	Zinc, water, filtered, μg/L (01090)	Zinc, water, unfiltered, recoverable, μg/L (01092)	Arsenic, water, filtered, μg/L (01000)	Arsenic, water, unfiltered, μg/L (01002)	Boron, water, filtered, μg/L (01020)	Selenium, water, filtered, μg/L (01145)	Selenium, water, unfiltered, μg/L (01147)
	01-05-2010	.51	.42	728	735	.08	E .18	E 1.7	.12