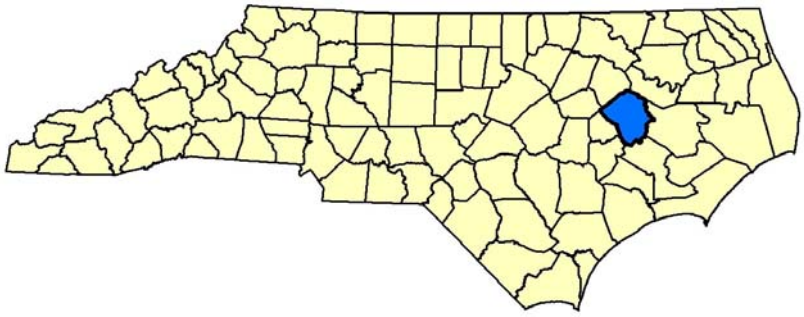
ANNUAL REPORT FOR 2005



Grimesland Sand Pit Phase II Site
Pitt County
Project No. 8.T221801
TIP No. R-2510WM
Monitoring Year 3 of 5

Ecosystem Enhancement PROGRAM

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February 2006

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SUMMARY

The following report summarizes the monitoring activities that have occurred in the past year for Phase II of the Grimesland Sand Pit Mitigation Site. This site was constructed to serve as a wetland mitigation site for roadway project impacts in the Lower Tar River portion of the Tar-Pamlico River Basin in North Carolina. The site consists of three phases. Phase II construction was completed in 2003 and planting occurred in February of 2003.

The site is monitored for hydrology using twenty groundwater-monitoring gauges and one rain gauge. The site is monitored for vegetation using seven vegetation plots, which are representative of the 48.8 acres planted in trees on the Grimesland Sand Pit Site Phase II.

The 2005-year represents the third year of hydrology and vegetation monitoring following construction. The site must demonstrate hydrologic and vegetation success for a minimum of five years or until the project is deemed successful.

Results for both hydrologic and vegetation monitoring indicate that the site is meeting success. The hydrologic data for 2005 demonstrates that the Phase II site met jurisdictional success with all twenty groundwater gauges exceeding the 12.5% minimum success criterion, with nine gauges meeting 100% during the growing season. Vegetation monitoring yielded 387 trees per acre, which is above the minimum success criteria for the third year of monitoring.

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The 550-acre Grimesland Sand Pit Mitigation Site (herein after referred to as "the site") is located in Pitt County near the community of Grimesland. The site is currently owned and mined by NCDOT. The site is bounded on the north and the east by Grindle Creek, on the west by croplands and pine plantation, and on the south by the floodplain of the Tar River and the Tar River itself (Figure 1). The site serves as a regional wetland mitigation site for NCDOT roadway projects that would impact similar sites located in the Lower Tar River Sub-Basin. The site includes the creation of 58 acres of forested riverine wetlands (cypress-gum swamp and coastal plain bottomland hardwoods), the creation of 2 acres of emergent wetlands on submerged benches, the preservation of 348 acres of riverine wetland ecosystem, the preservation of 29.59 acres of riparian buffer and the enhancement of aquatic habitat within 80 acres of flooded abandoned borrow pits.

1.2 PURPOSE

In order to demonstrate successful mitigation, hydrologic and vegetative monitoring must be conducted for a minimum of five years or until success criteria are satisfied. Success criteria are based on federal guidelines for wetland mitigation. These guidelines stipulate criteria for both hydrologic conditions and vegetation survival. The following report details the results of hydrologic and vegetative monitoring during the 2005-growing season at the Grimesland Sand Pit Site Phase II.

1.3 PROJECT HISTORY

Date	Task Accomplished
2003 (Construction-Phase II)	
February	Phase II Planted
March-November	Hydrologic Monitoring (1 yr.)
June	Vegetation Monitoring (1 yr.)
2004	
March-November	Hydrologic Monitoring (2 yr.)
June	Vegetation Monitoring (2 yr.)
2005	
March-November	Hydrologic Monitoring (3 yr.)
June	Vegetation Monitoring (3 yr.)

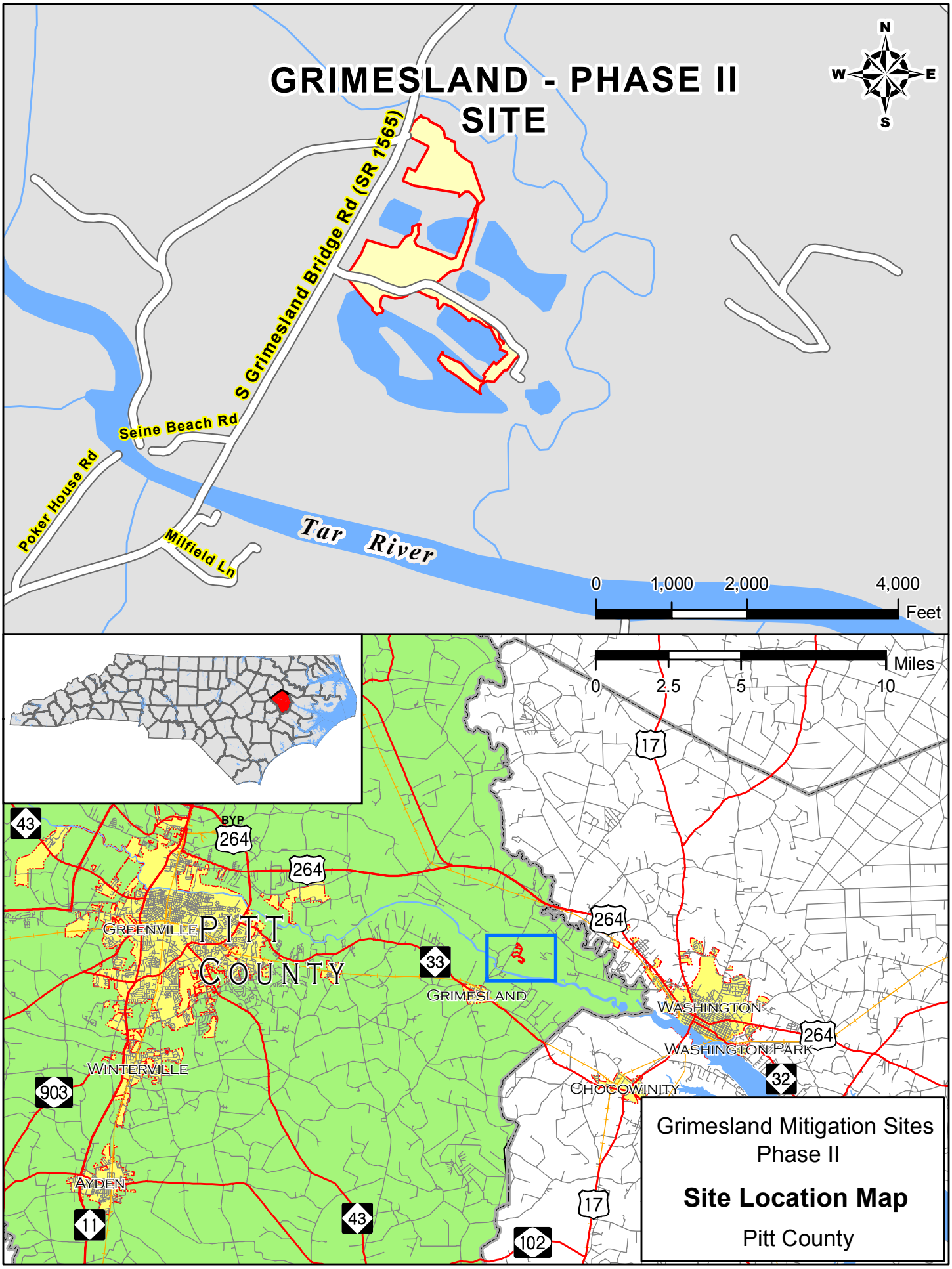

GRIMESLAND - PHASE II SITE
N
W
E
S
S Grimesland Bridge Rd (SR 1565)
Seine Beach Rd
Poker House Rd
Milfield Ln
Tar River
0
1,000
2,000
4,000
Feet
Miles
0
2.5
5
10
17
43
BYP
264
264
264
264
GREENVILLE
PITT
COUNTY
33
GRIMESLAND
WASHINGTON
WASHINGTON PARK
CHOCOWINITY
32
WINTERVILLE
903
AYDEN
11
43
17
102
Grimesland Mitigation Sites
Phase II
Site Location Map
Pitt County

Figure 1

2.0 HYDROLOGY

2.1 SUCCESS CRITERIA

In accordance with federal guidelines for wetland mitigation, the success criteria for hydrology state that the area must be inundated or saturated (within 12" of the surface) by surface or groundwater for consecutive days lasting at least 12.5% of the growing season. Areas inundated less than 5% of the growing season are always classified as nonwetlands. Areas inundated between 5% - 12.5% of the growing season can be classified as wetlands depending upon other factors, such as the presence of hydrophytic vegetation and hydric soils.

The growing season in Pitt County begins March 15 and ends November 16. These dates correspond to a 50% probability that temperatures will remain above 28^{o} F or higher after March 15 and before November 16[1]. The growing season is 247 days; therefore, the optimum duration for wetland hydrology is 31 days. Also, local climate must represent average conditions for the area.

2.2 HYDROLOGIC DESCRIPTION

Twenty groundwater gauges were installed in the Phase II area in April 2003 (Figure 2). The automatic monitoring gauges record daily readings of the groundwater depth. The 2005 data represents the third full growing season during which the water table was monitored in the Phase II area. A rain gauge installed onsite records daily rainfall totals; these rain events are incorporated into the monitoring results to examine how the site's groundwater level responds to rainfall.

2.3 RESULTS OF HYDROLOGIC MONITORING

2.3.1 Site Data

The maximum number of consecutive days that the groundwater was within twelve inches of the surface was determined for each groundwater-monitoring gauge. This number was converted into a percentage of the 247-day growing season (March 15 – November 16).

Table 1 shows the hydrologic results for 2005; Figure 3 is an aerial photograph with the gauges shown as a blue dot indicating the gauge showed success for more than 12.5% of the growing season; a red dot, between 8 and 12.5%; a green dot, between 5 and 8%, and a black dot, less than 5%. All gauges met the 12.5% success criterion.

[1] Soil Conservation Service, Soil Survey of Pitt County, North Carolina, p.71.

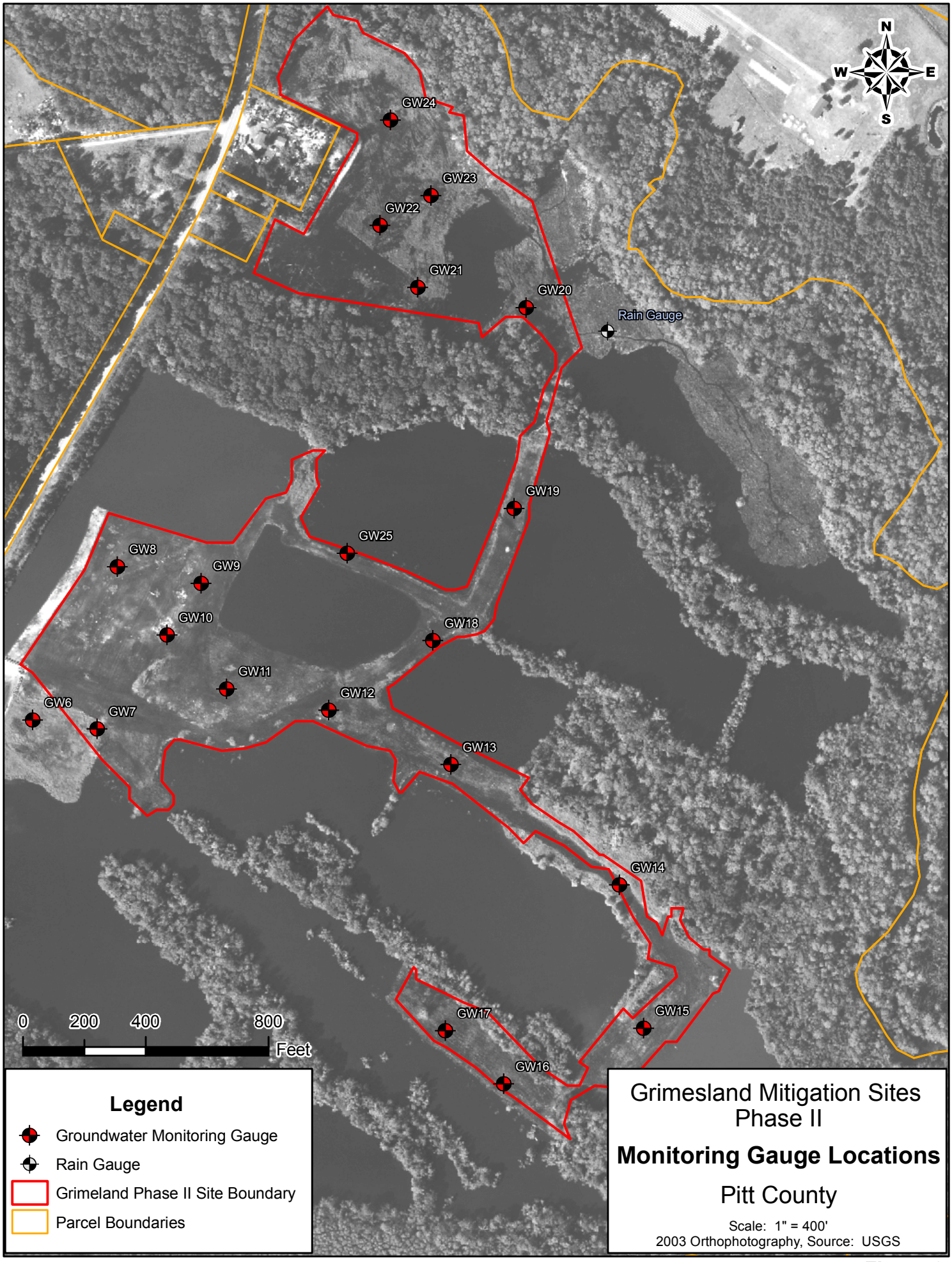

N
W
E
S
GW24
GW23
GW22
GW21
GW20
Rain Gauge
GW19
GW25
GW8
GW9
GW10
GW18
GW11
GW12
GW6
GW7
GW13
GW14
GW17
GW15
GW16
0
200
400
800
Feet
Legend
Groundwater Monitoring Gauge
Rain Gauge
Grimeland Phase II Site Boundary
Parcel Boundaries
Grimesland Mitigation Sites
Phase II
Monitoring Gauge Locations
Pitt County
Scale: 1" = 400'
2003 Orthophotography, Source: USGS

Figure 2

Table 1. 2005 Phase II Hydrologic Monitoring Results

Monitoring Gauge	< 5%	5 – 8%	8 – 12%	> 12.5%	Actual %	Success Dates
GSP-GW6+				x	19.8	March 15-May 2
GSP-GW7+				x	100	March 15-November 16
GSP-GW8+				x	95.6	March 15-July 26 July 29-September 3 September 13-November 16
GSP-GW9+				X	77.7	March 15-September 22
GSP-GW10+				X	94.3	March 15-July 24 July 29-September 3 September 12-November 16
GSP-GW11+				X	17.4	March 15-April 26
GSP-GW12+				X	100	March 15-November 16
GSP-GW13+				X	82.6	March 15-August 24 October 6-November 16
GSP-GW14+				X	100	March 15-November 16
GSP-GW15+				X	100	March 15-November 16
GSP-GW16+				X	100	March 15-November 16
GSP-GW17+				X	77.7	March 15-September 22
GSP-GW18+				X	100	March 15-November 16
GSP-GW19+				X	100	March 15-November 16
GSP-GW20+				X	95.5	March 15-May 29 June 10-November 16
GSP-GW21+				X	76.5	March 15-July 26 September 23-November 16
GSP-GW22+				X	99.2	March 15-July 21 July 23-November 16
GSP-GW23+				X	100	March 15-November 16
GSP-GW24+				X	100	March 15-November 16
GSP-GW25+				x	100	March 15-November 16

+ Gauge met the success criterion during an average rainfall month (March, April, May, July and September).

Appendix A contains plots of the groundwater depth at each monitoring gauge location during 2005. In addition to documenting the water table level relative to the ground surface, these monitoring gauge graphs are designed to show the reaction of the groundwater level to specific rainfall events. The maximum number of consecutive days that the gauge indicates successful hydrology is noted on each graph. Precipitation events recorded by the onsite rain gauge are also included on each graph. Plots of the data recorded at each of the two surface water gauges are included in Appendix A.

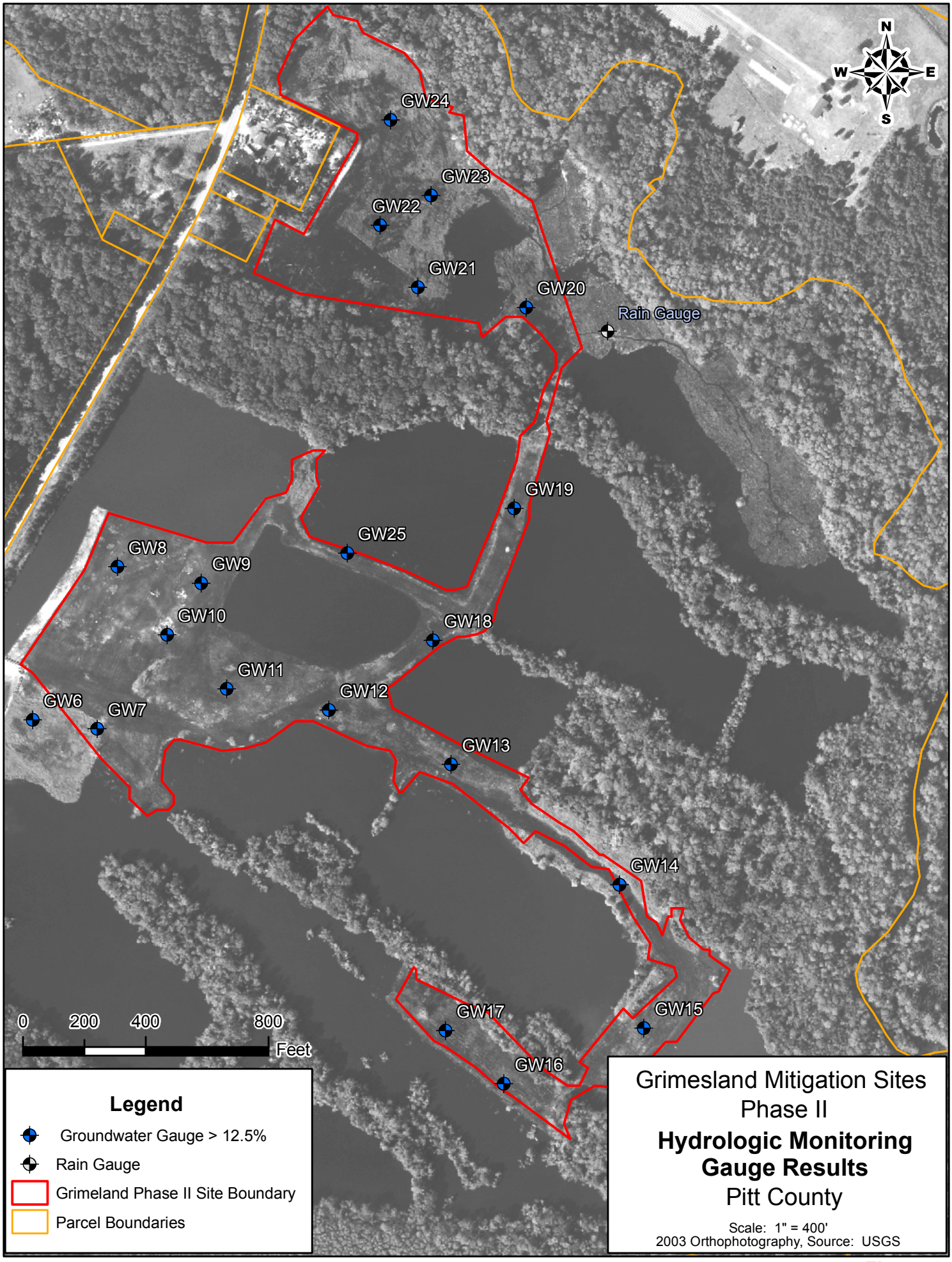

N
W
E
S
GW24
GW23
GW22
GW21
GW20
Rain Gauge
GW19
GW25
GW8
GW9
GW10
GW18
GW11
GW12
GW6
GW7
GW13
GW14
GW17
GW15
GW16
0
200
400
800
Feet
Legend
Groundwater Gauge > 12.5%
Rain Gauge
Grimeland Phase II Site Boundary
Parcel Boundaries
Grimesland Mitigation Sites
Phase II
Hydrologic Monitoring Gauge Results
Pitt County
Scale: 1" = 400'
2003 Orthophotography, Source: USGS

Figure 3

2.3.2 Climatic Data

Figure 4 is a graph of monthly rainfall for the period of November 2004 through October 2005 compared to historical precipitation data (collected between 1973 and 2004) for Washington, North Carolina. The onsite rain gauge provided the rainfall data and the NC State Climate Office provided the historical rainfall data. The comparison of 2005 rainfall versus historical values gives an indication of how 2005 compares to historical climate conditions.

For the 2005 monitoring year, October experienced above average rainfall. The months of January, February, and August recorded below average rainfall for the site. November ('04), December ('04), March, April, May, June, July, and September experienced average rainfall. Overall, 2005 experienced an average rainfall year.

2.4 CONCLUSIONS

The 2005-year concludes the third complete year of hydrology monitoring at the Grimesland Phase II Site. The 2005 data shows that the Phase II site met jurisdictional success with all twenty groundwater gauges exceeding the 12.5% minimum success criterion. A comparison of 2005 rainfall versus historical precipitation shows that 2005 experienced average rainfall conditions. It is recommended that EEP continue monitoring at the Grimesland Phase II Mitigation Site for the 2006 monitoring year.

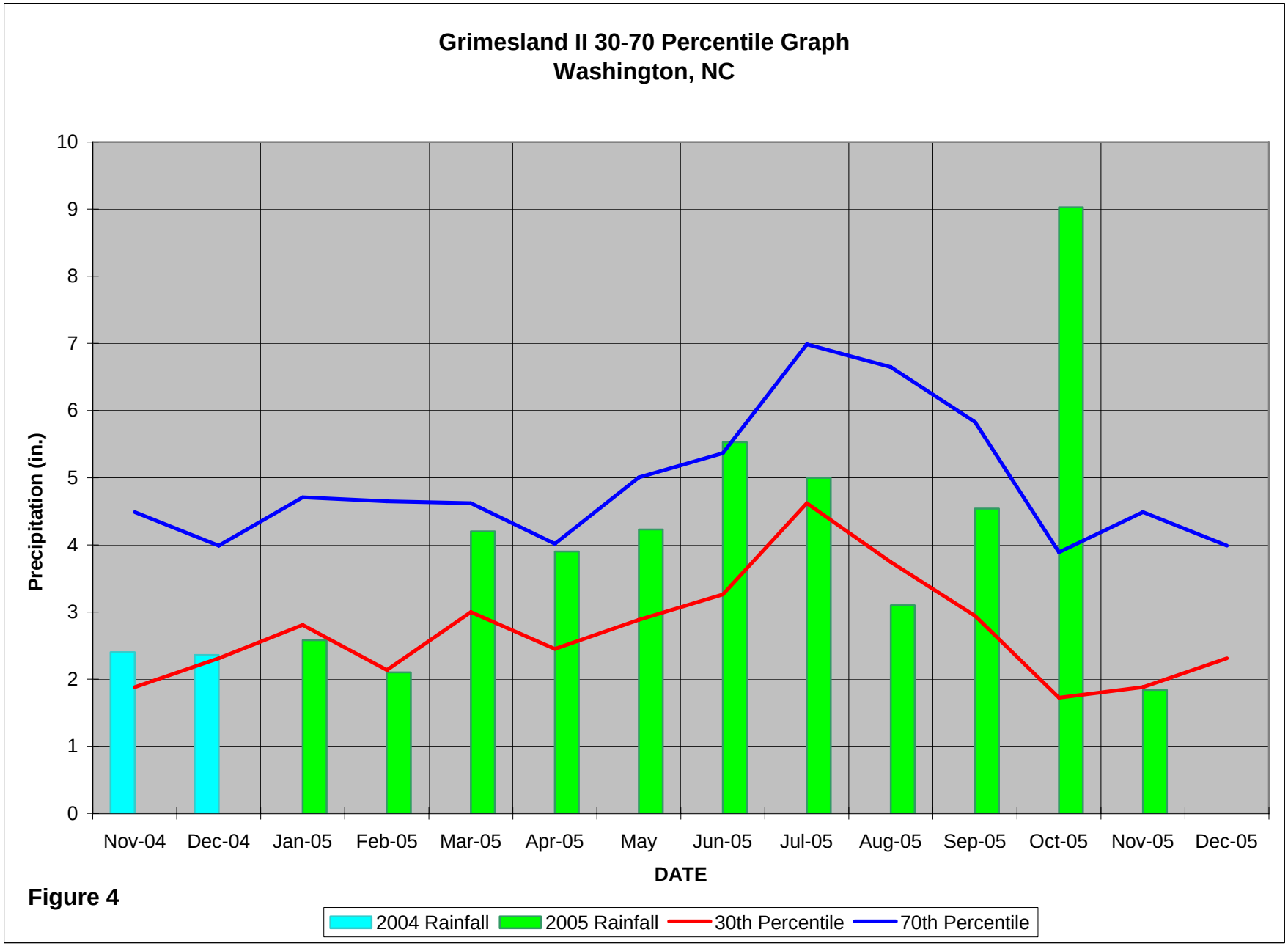

Grimesland II 30-70 Percentile Graph
Washington, NC
Precipitation (in.)
10
9
8
7
6
5
4
3
2
1
0
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May
Jun-05
Jul-05
Aug-05
Sep-05
Oct-05
Nov-05
Dec-05
DATE
2004 Rainfall
2005 Rainfall
30th Percentile
70th Percentile

Figure 4

3.0 VEGETATION (YEAR 3 MONITORING)

3.1 SUCCESS CRITERIA

The success criteria state that there must be a minimum density of 320 trees per acre after three years of initial planting and a minimum count of 260 trees per acre must be achieved after five years of initial planting.

3.2 DESCRIPTION OF SPECIES

The following species were planted in the Wetland Restoration Area:

Phase II:

Nyssa sylvatica var. *biflora*, Swamp Blackgum
Fraxinus pennsylvanica, Green Ash
Quercus phellos, Willow Oak
Quercus nigra, Water Oak
Taxodium distichum, Baldcypress
Quercus lyrata, Overcup Oak
Platanus occidentalis, Sycamore

3.3 RESULTS OF VEGETATION MONITORING

Table 2. Vegetation Monitoring Statistics

Plot #	Baldcypress	Green Ash	Swamp Blackgum	Water Oak	Willow Oak	Overcup Oak	Sycamore	Total (Year 3)	Total (at planting)	Density (Trees/Acre)
1	7	8		11	3	14	1	44	50	598
2	4	5				2		11	31	241
3	3		3	3		3		12	31	263
4	11		7					18	22	556
5	24	7	4			3		38	45	544
6	3	10						13	26	340
7	1	5	4					10	40	170
	AVERAGE TREE DENSITY									**387**

Site Notes: Other species noted: black willow, *Juncus* sp., woolgrass, cattail, *Cyperus* sp., *Scirpus* sp., smartweed, volunteer sycamore, volunteer swamp blackgum, and various grasses.

3.4 CONCLUSIONS

Phase II consisted of approximately 48.8 acres of tree planting. There were seven vegetation-monitoring plots established throughout the Phase II planting areas. The 2005 vegetation monitoring of the site revealed an average tree density of 387 trees per acre in Phase II. This average is above the minimum success criteria of 320 trees per acre.

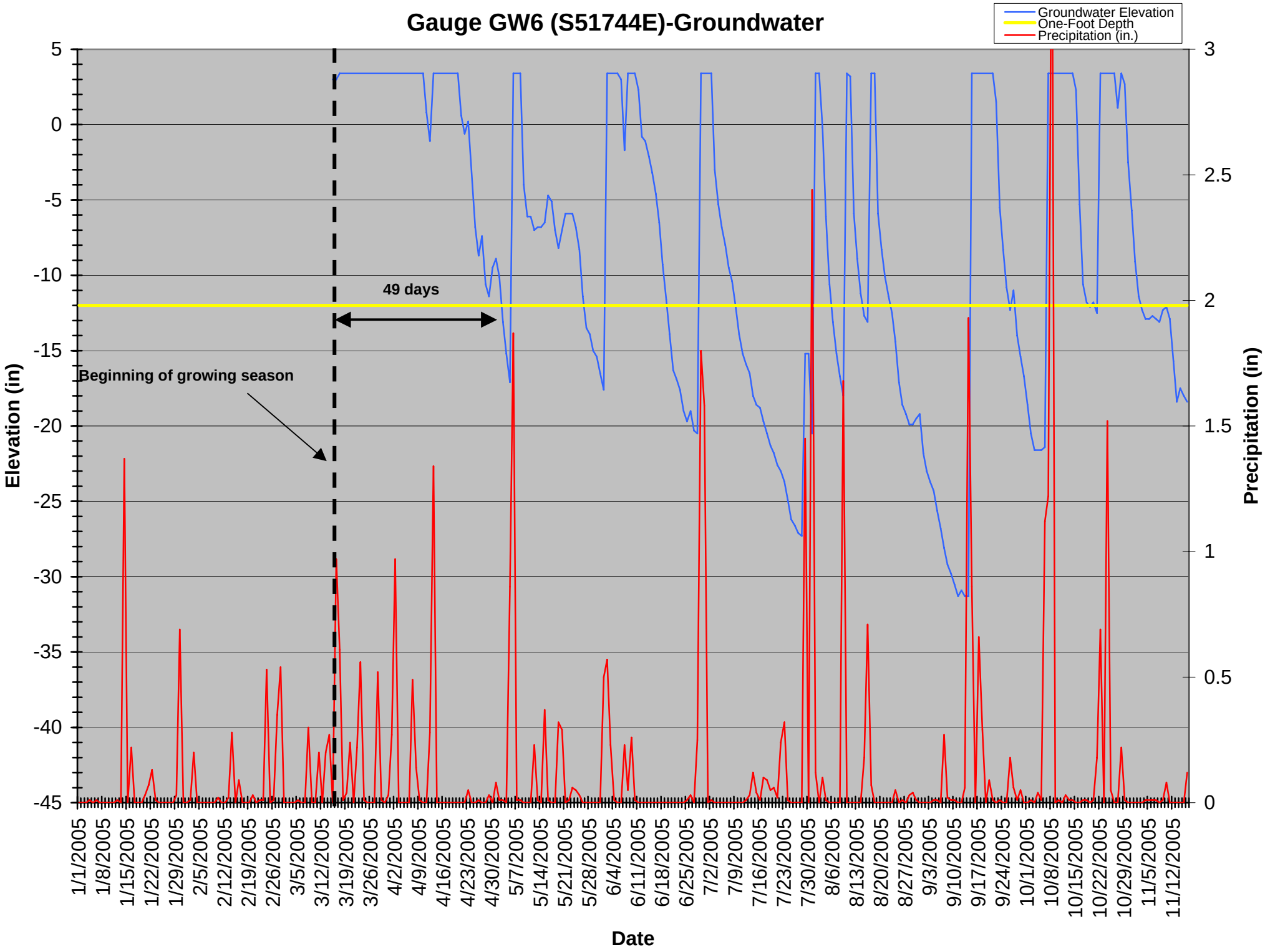
The EEP will begin monitoring the vegetation at the Grimesland Phase II Mitigation Site for the 2006 monitoring year.

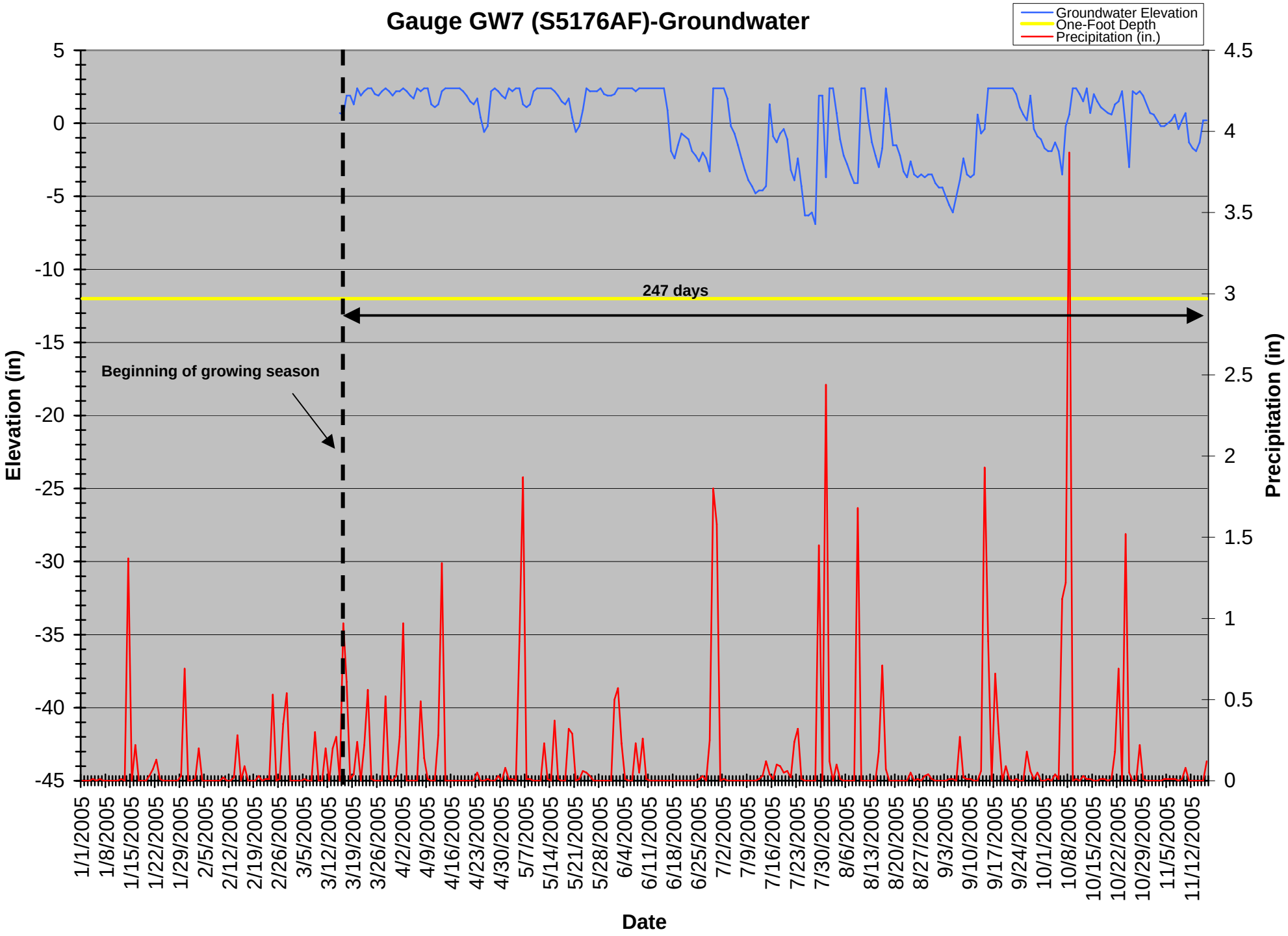
4.0 OVERALL CONCLUSIONS/ RECOMMENDATIONS

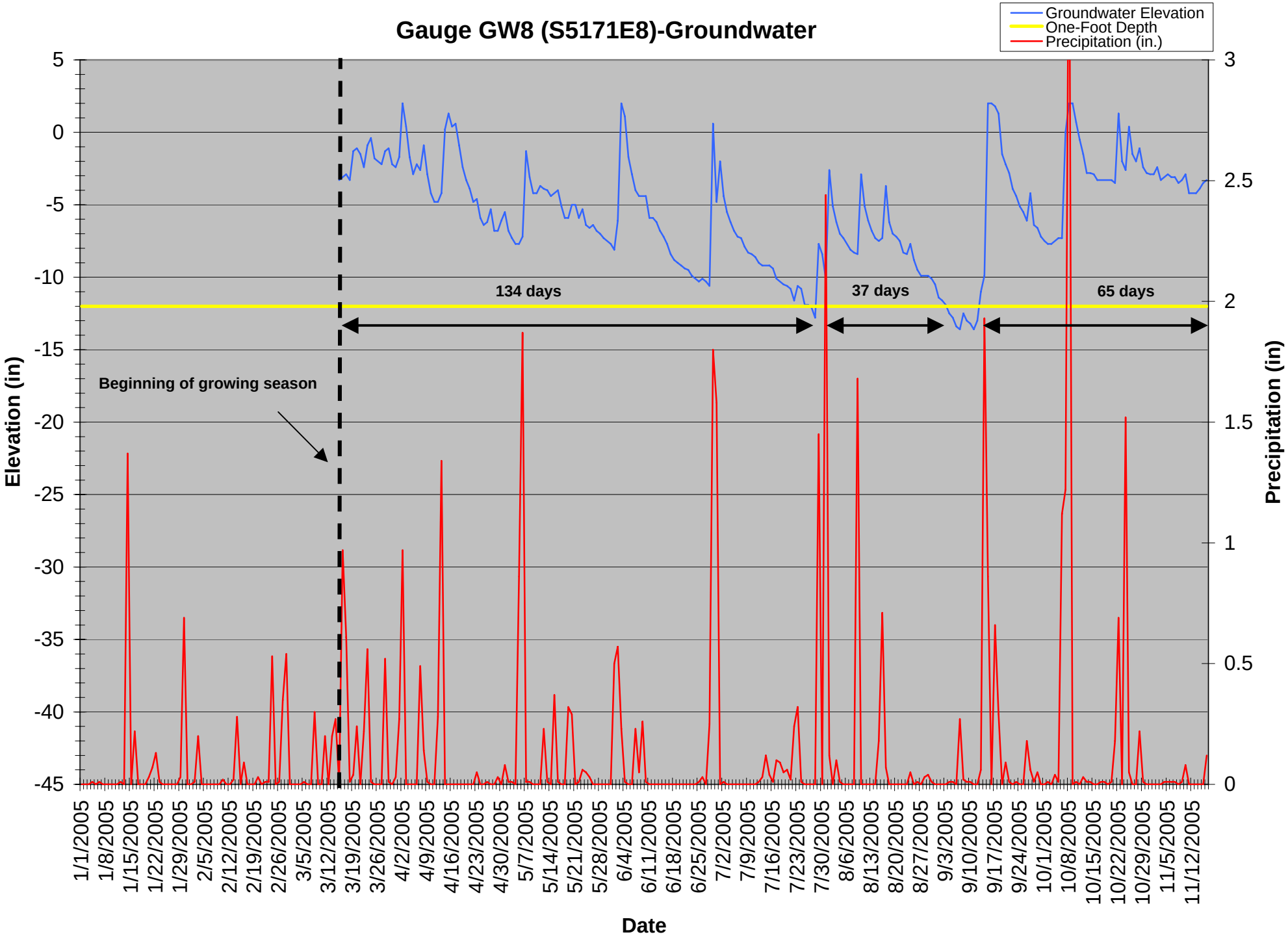
The Grimesland Sand Pit Phase II Mitigation Site was monitored for the third year in 2005. All twenty groundwater-monitoring gauges indicated jurisdictional success of at least 12.5% for the 2005-monitoring year, with thirteen gauges meeting for 100% of the growing season. An analysis of rainfall in nearby Washington, NC shows that the region experienced average rainfall for the year. Therefore, the site met jurisdictional success criteria under average climatic conditions.

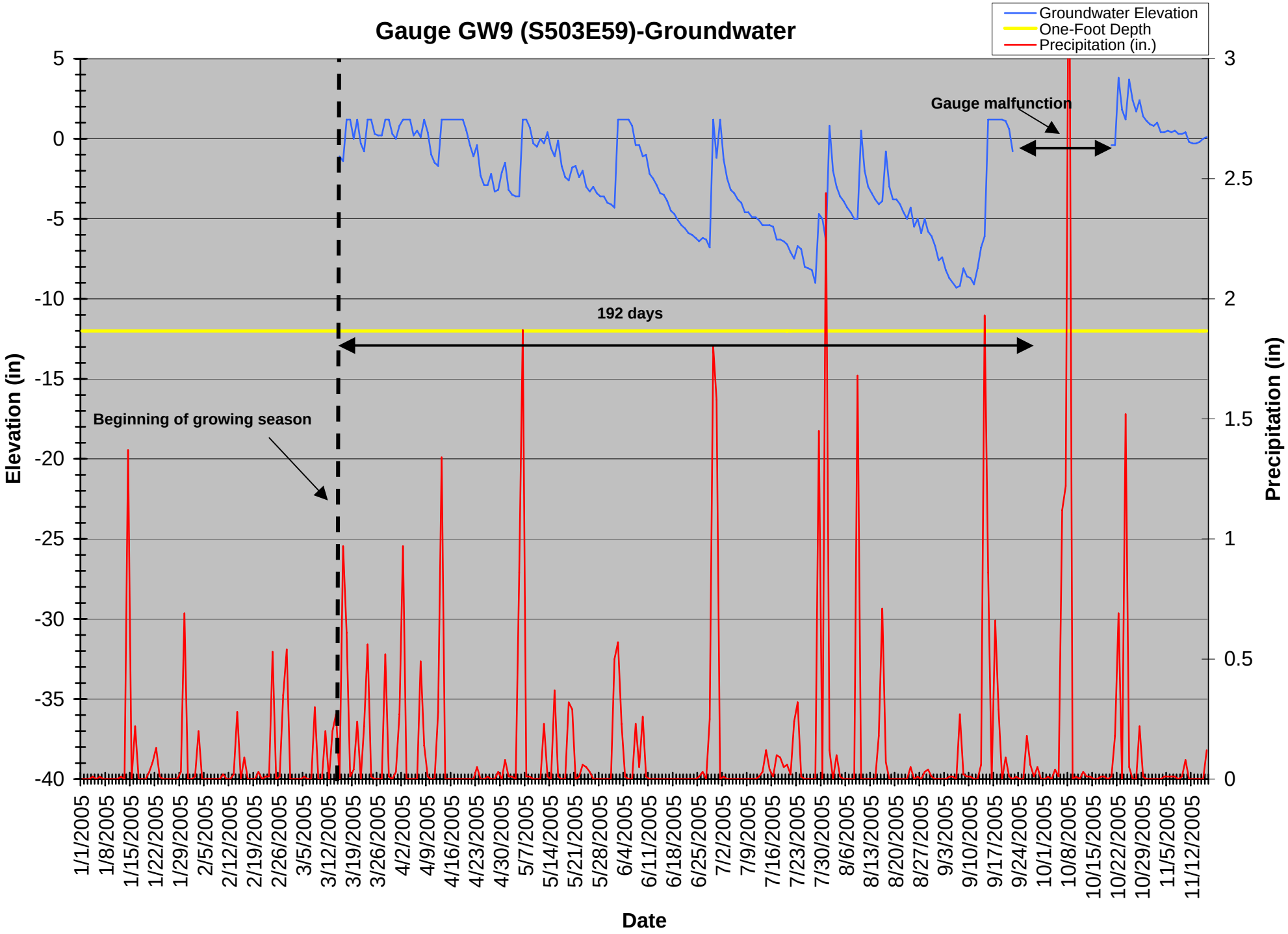
Approximately 48.8 acres of the site were planted; seven vegetation plots within this area are used for vegetation monitoring. The established success criteria state that the minimum survival rate in the first three years following planting is 320 trees per acre. Monitoring results showed an average survival rate of 387 trees per acre in the third year. Therefore, the vegetation exceeds the minimum success criteria.

APPENDIX A
DEPTH TO GROUNDWATER CHARTS


Gauge GW6 (S51744E)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
49 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
2
1.5
1
0.5
0
1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
3/19/2005
3/26/2005
4/2/2005
4/9/2005
4/16/2005
4/23/2005
4/30/2005
5/7/2005
5/14/2005
5/21/2005
5/28/2005
6/4/2005
6/11/2005
6/18/2005
6/25/2005
7/2/2005
7/9/2005
7/16/2005
7/23/2005
7/30/2005
8/6/2005
8/13/2005
8/20/2005
8/27/2005
9/3/2005
9/10/2005
9/17/2005
9/24/2005
10/1/2005
10/8/2005
10/15/2005
10/22/2005
10/29/2005
11/5/2005
11/12/2005


Gauge GW7 (S5176AF)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
3/19/2005
3/26/2005
4/2/2005
4/9/2005
4/16/2005
4/23/2005
4/30/2005
5/7/2005
5/14/2005
5/21/2005
5/28/2005
6/4/2005
6/11/2005
6/18/2005
6/25/2005
7/2/2005
7/9/2005
7/16/2005
7/23/2005
7/30/2005
8/6/2005
8/13/2005
8/20/2005
8/27/2005
9/3/2005
9/10/2005
9/17/2005
9/24/2005
10/1/2005
10/8/2005
10/15/2005
10/22/2005
10/29/2005
11/5/2005
11/12/2005


Gauge GW8 (S5171E8)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
134 days
37 days
65 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
2
1.5
1
0.5
0
1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
3/19/2005
3/26/2005
4/2/2005
4/9/2005
4/16/2005
4/23/2005
4/30/2005
5/7/2005
5/14/2005
5/21/2005
5/28/2005
6/4/2005
6/11/2005
6/18/2005
6/25/2005
7/2/2005
7/9/2005
7/16/2005
7/23/2005
7/30/2005
8/6/2005
8/13/2005
8/20/2005
8/27/2005
9/3/2005
9/10/2005
9/17/2005
9/24/2005
10/1/2005
10/8/2005
10/15/2005
10/22/2005
10/29/2005
11/5/2005
11/12/2005


Gauge GW9 (S503E59)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
Gauge malfunction
192 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
3
2.5
2
1.5
1
0.5
0
1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
3/19/2005
3/26/2005
4/2/2005
4/9/2005
4/16/2005
4/23/2005
4/30/2005
5/7/2005
5/14/2005
5/21/2005
5/28/2005
6/4/2005
6/11/2005
6/18/2005
6/25/2005
7/2/2005
7/9/2005
7/16/2005
7/23/2005
7/30/2005
8/6/2005
8/13/2005
8/20/2005
8/27/2005
9/3/2005
9/10/2005
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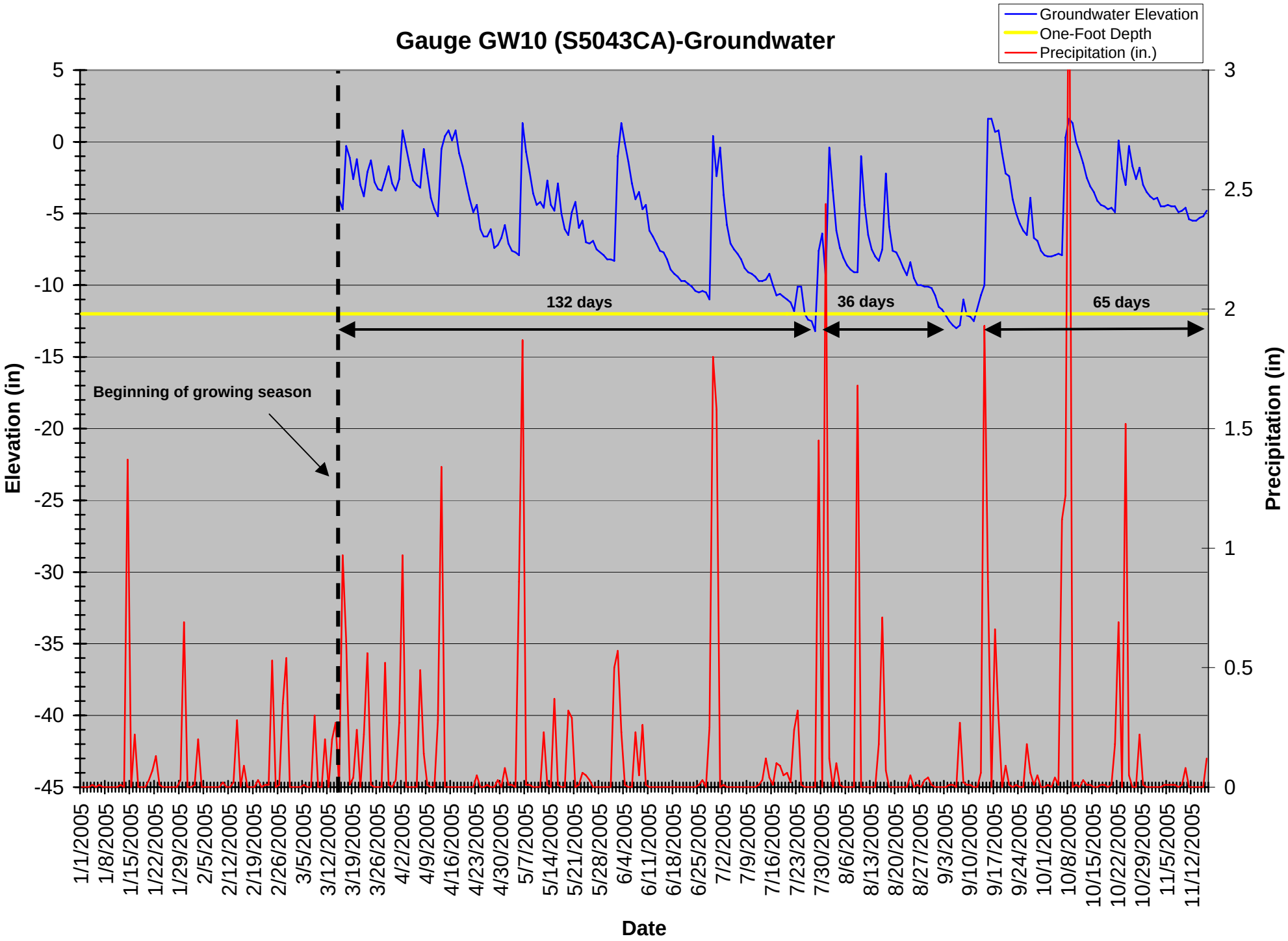
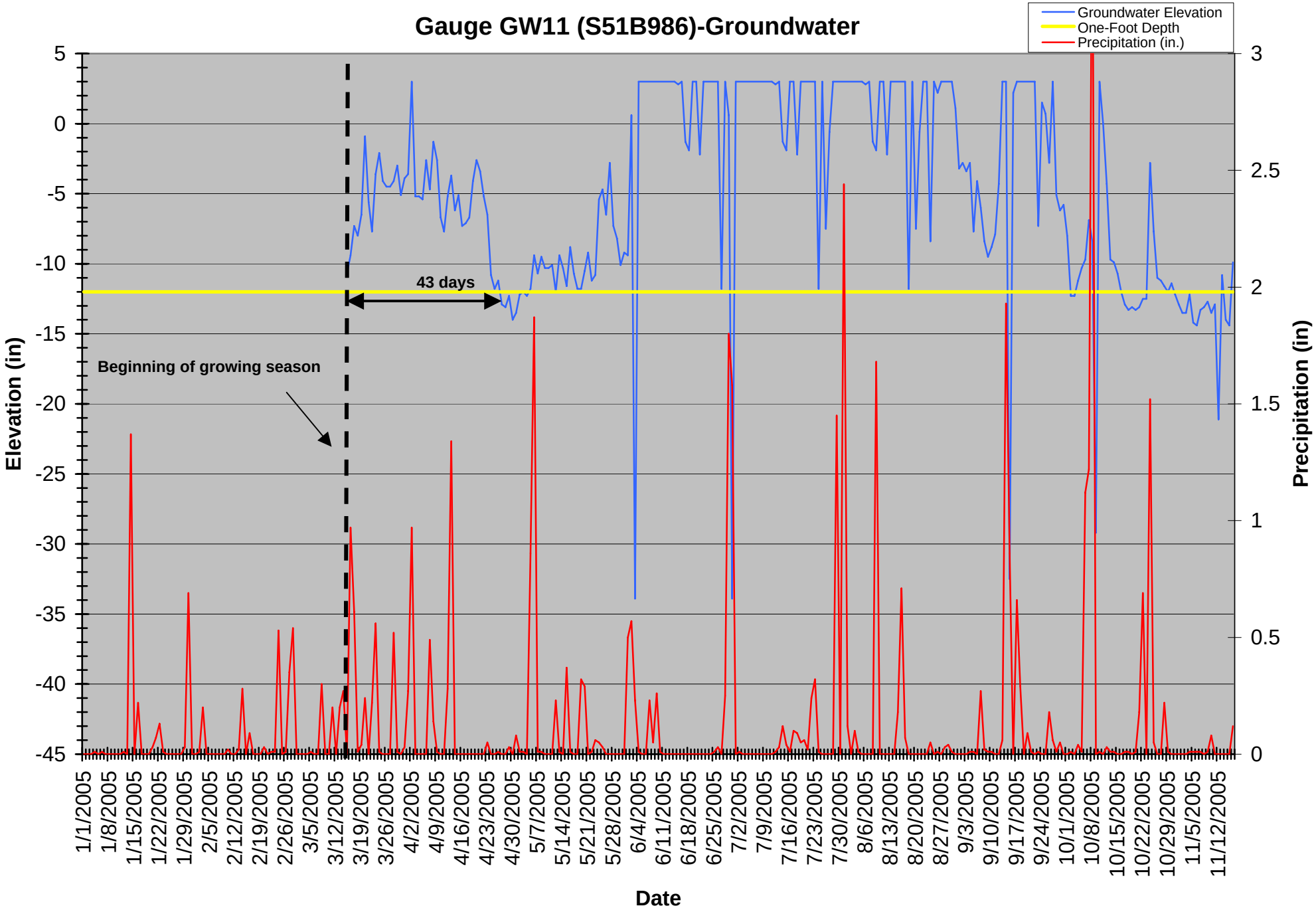
11/5/2005
11/12/2005


Gauge GW10 (S5043CA)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
Elevation (in)
Precipitation (in)
Date
132 days
36 days
65 days
Beginning of growing season
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
2
1.5
1
0.5
0
1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
3/19/2005
3/26/2005
4/2/2005
4/9/2005
4/16/2005
4/23/2005
4/30/2005
5/7/2005
5/14/2005
5/21/2005
5/28/2005
6/4/2005
6/11/2005
6/18/2005
6/25/2005
7/2/2005
7/9/2005
7/16/2005
7/23/2005
7/30/2005
8/6/2005
8/13/2005
8/20/2005
8/27/2005
9/3/2005
9/10/2005
9/17/2005
9/24/2005
10/1/2005
10/8/2005
10/15/2005
10/22/2005
10/29/2005
11/5/2005
11/12/2005


Gauge GW11 (S51B986)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
43 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
2
1.5
1
0.5
0
1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
3/19/2005
3/26/2005
4/2/2005
4/9/2005
4/16/2005
4/23/2005
4/30/2005
5/7/2005
5/14/2005
5/21/2005
5/28/2005
6/4/2005
6/11/2005
6/18/2005
6/25/2005
7/2/2005
7/9/2005
7/16/2005
7/23/2005
7/30/2005
8/6/2005
8/13/2005
8/20/2005
8/27/2005
9/3/2005
9/10/2005
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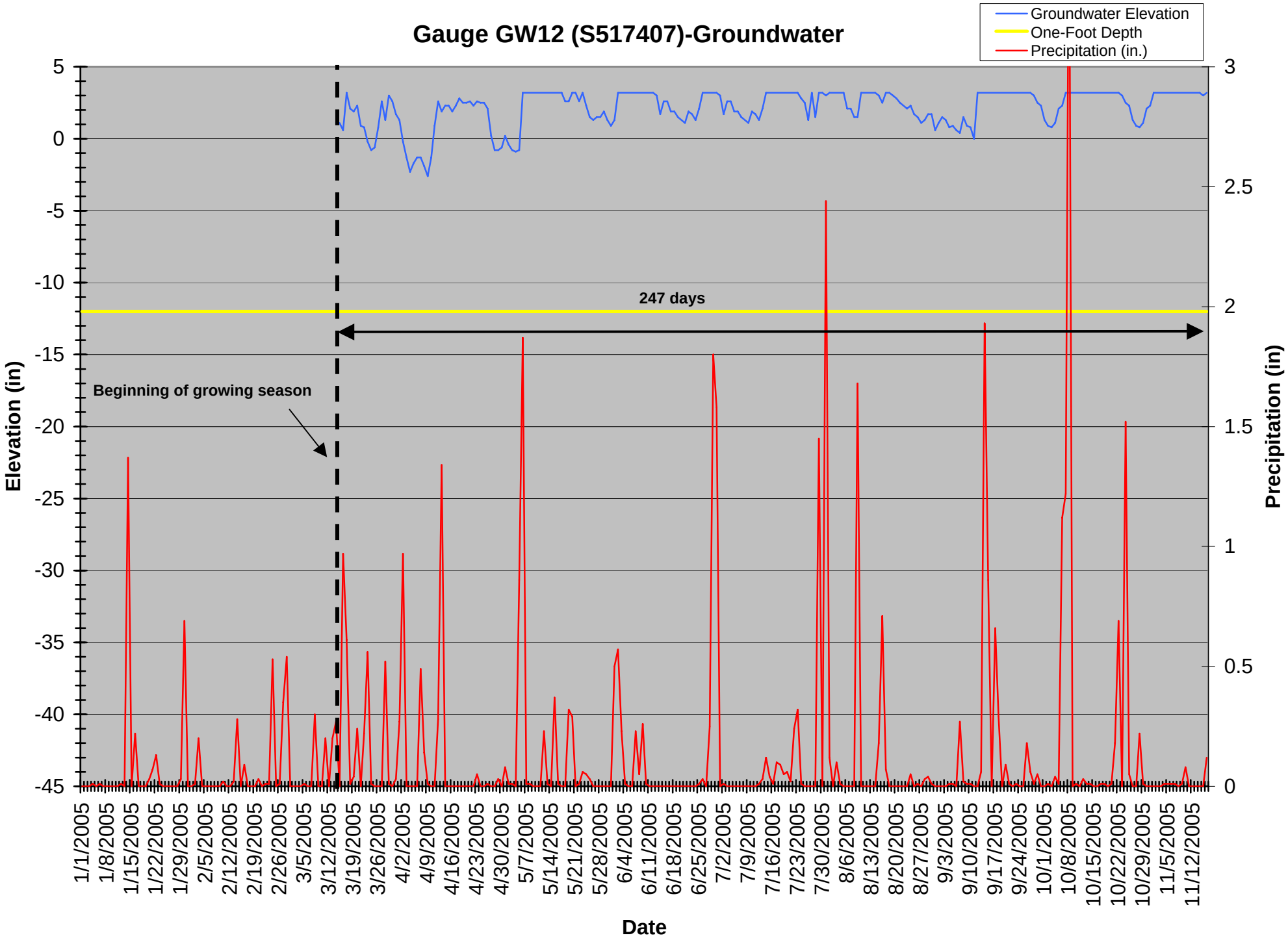
Gauge GW12 (S517407)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
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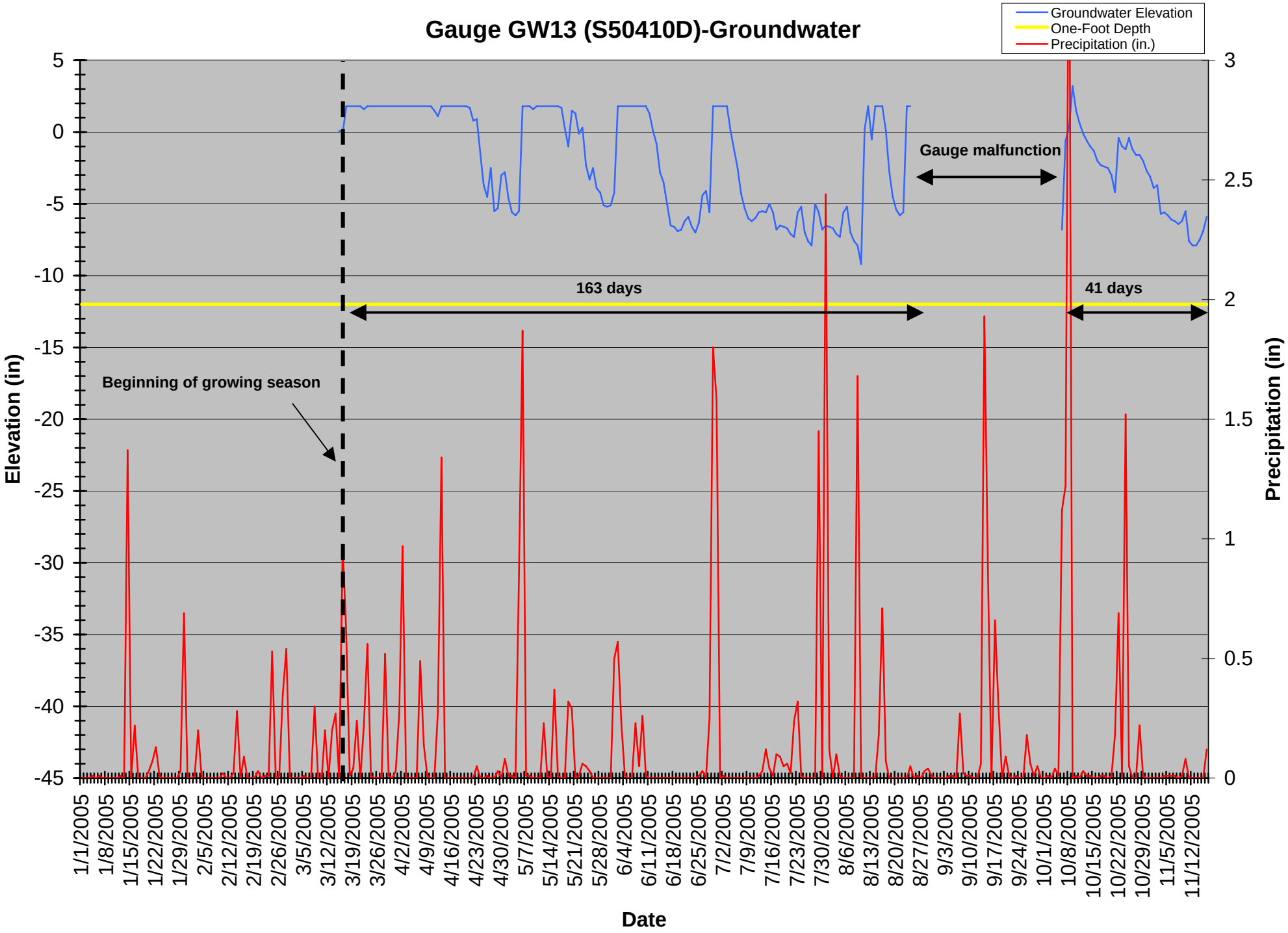
Gauge GW13 (S50410D)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
Gauge malfunction
163 days
41 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
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1/22/2005
1/29/2005
2/5/2005
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2/26/2005
3/5/2005
3/12/2005
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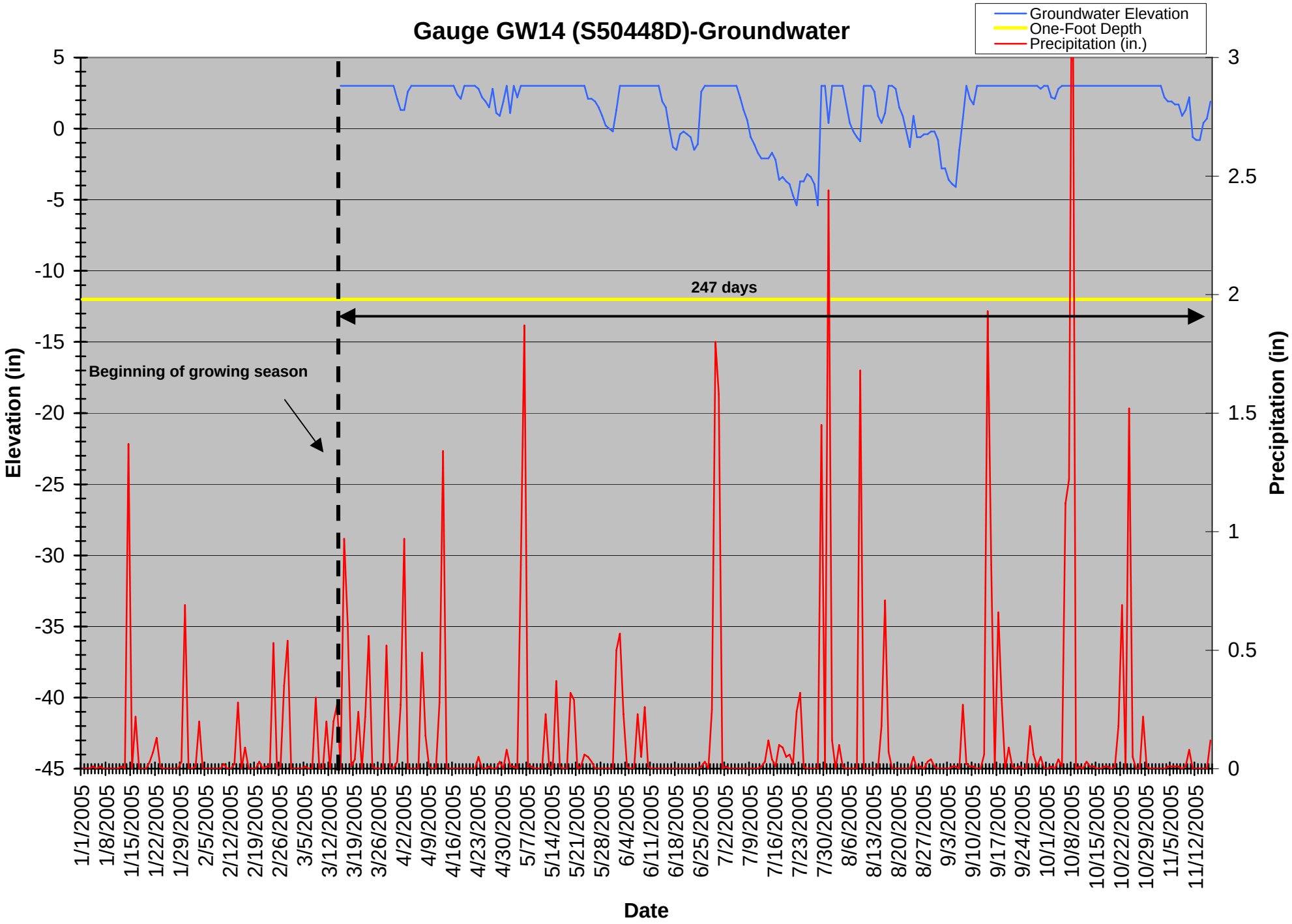
Gauge GW14 (S50448D)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
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0
-5
-10
-15
-20
-25
-30
-35
-40
-45
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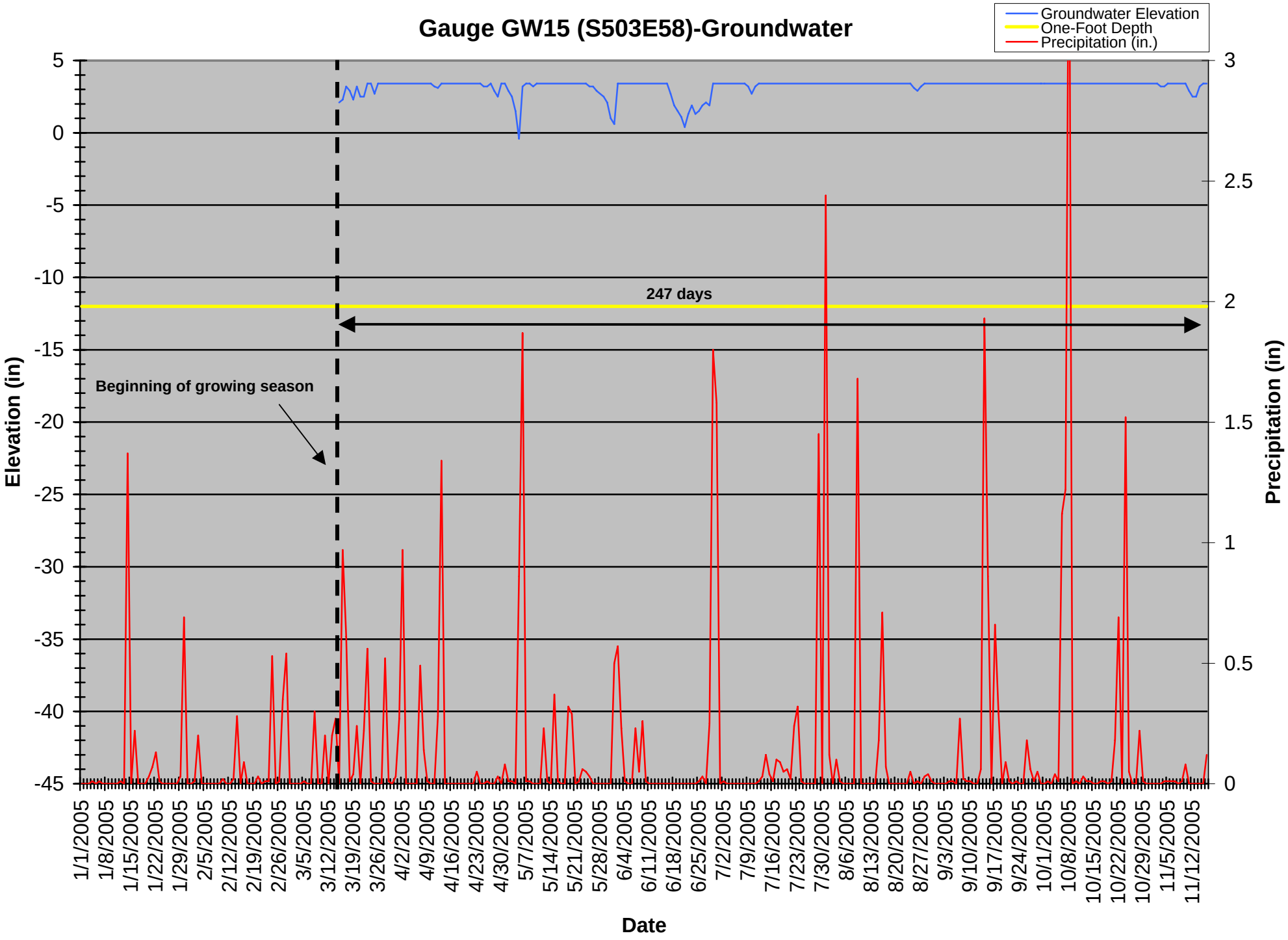
11/12/2005


Gauge GW15 (S503E58)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
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0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
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1.5
1
0.5
0
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9/10/2005
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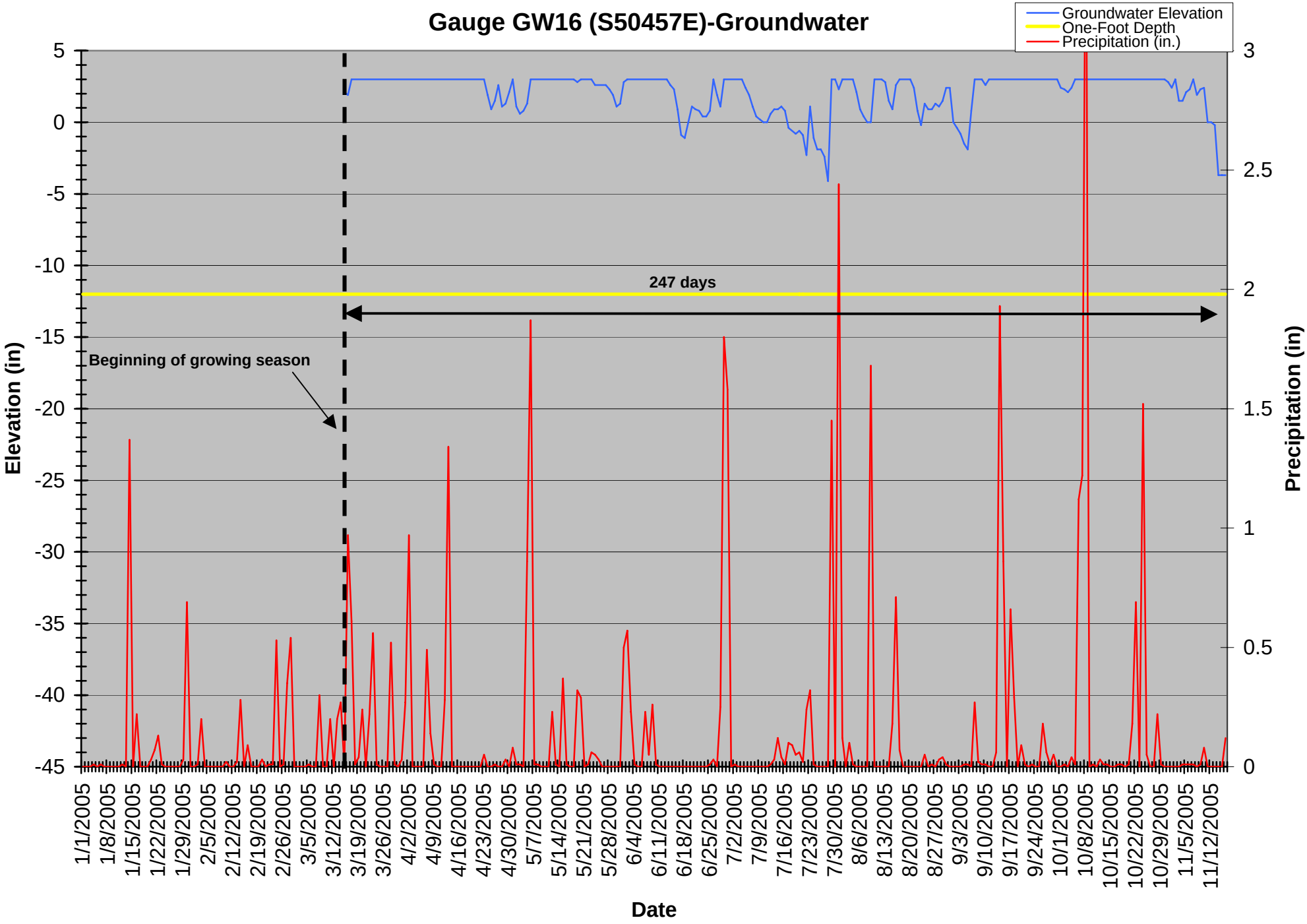
11/12/2005


Gauge GW16 (S50457E)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
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1.5
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1/1/2005
1/8/2005
1/15/2005
1/22/2005
1/29/2005
2/5/2005
2/12/2005
2/19/2005
2/26/2005
3/5/2005
3/12/2005
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4/2/2005
4/9/2005
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8/27/2005
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9/10/2005
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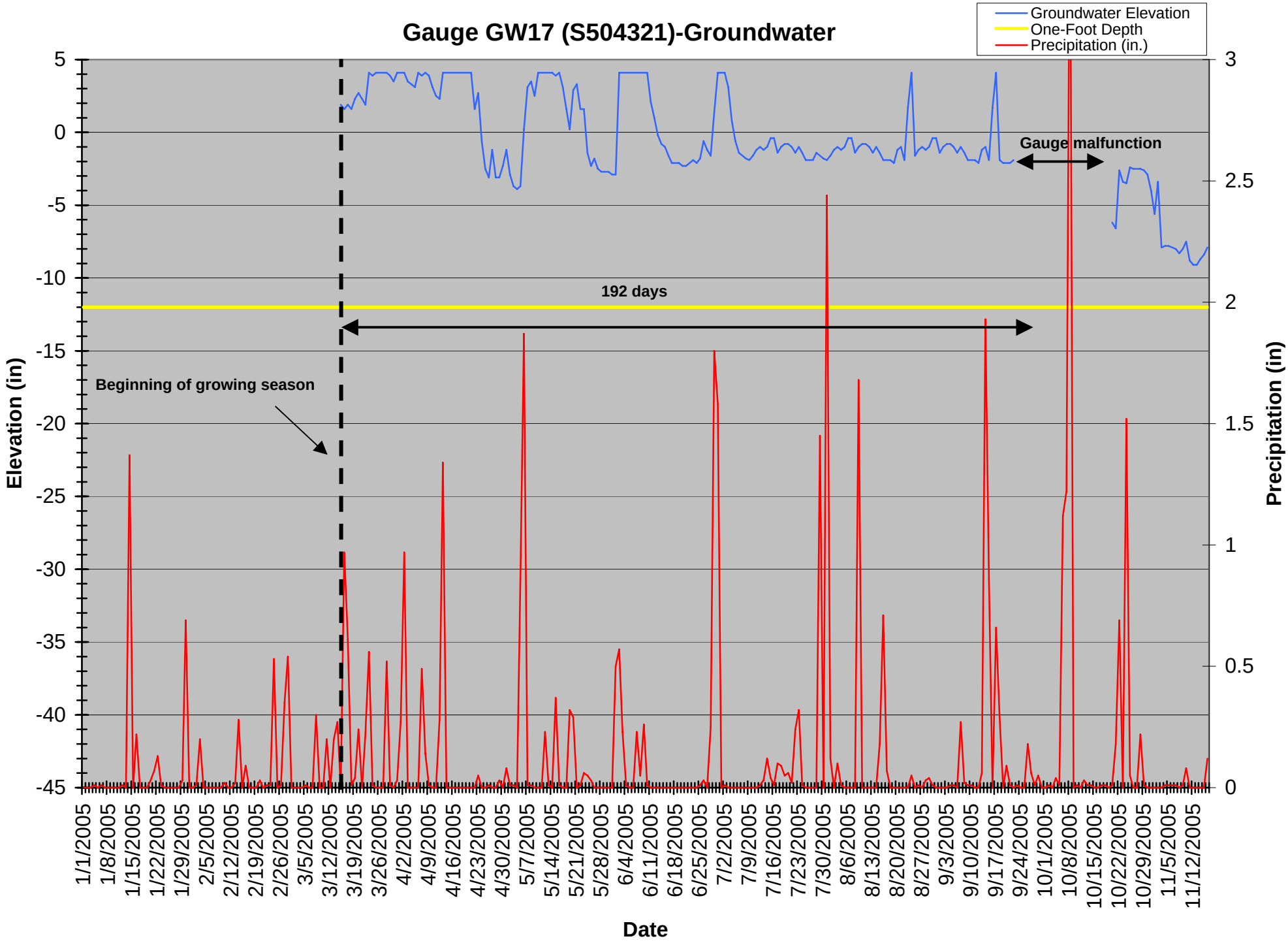
11/12/2005


Gauge GW17 (S504321)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
Gauge malfunction
192 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
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1/15/2005
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2/5/2005
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2/26/2005
3/5/2005
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4/2/2005
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8/27/2005
9/3/2005
9/10/2005
9/17/2005
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10/15/2005
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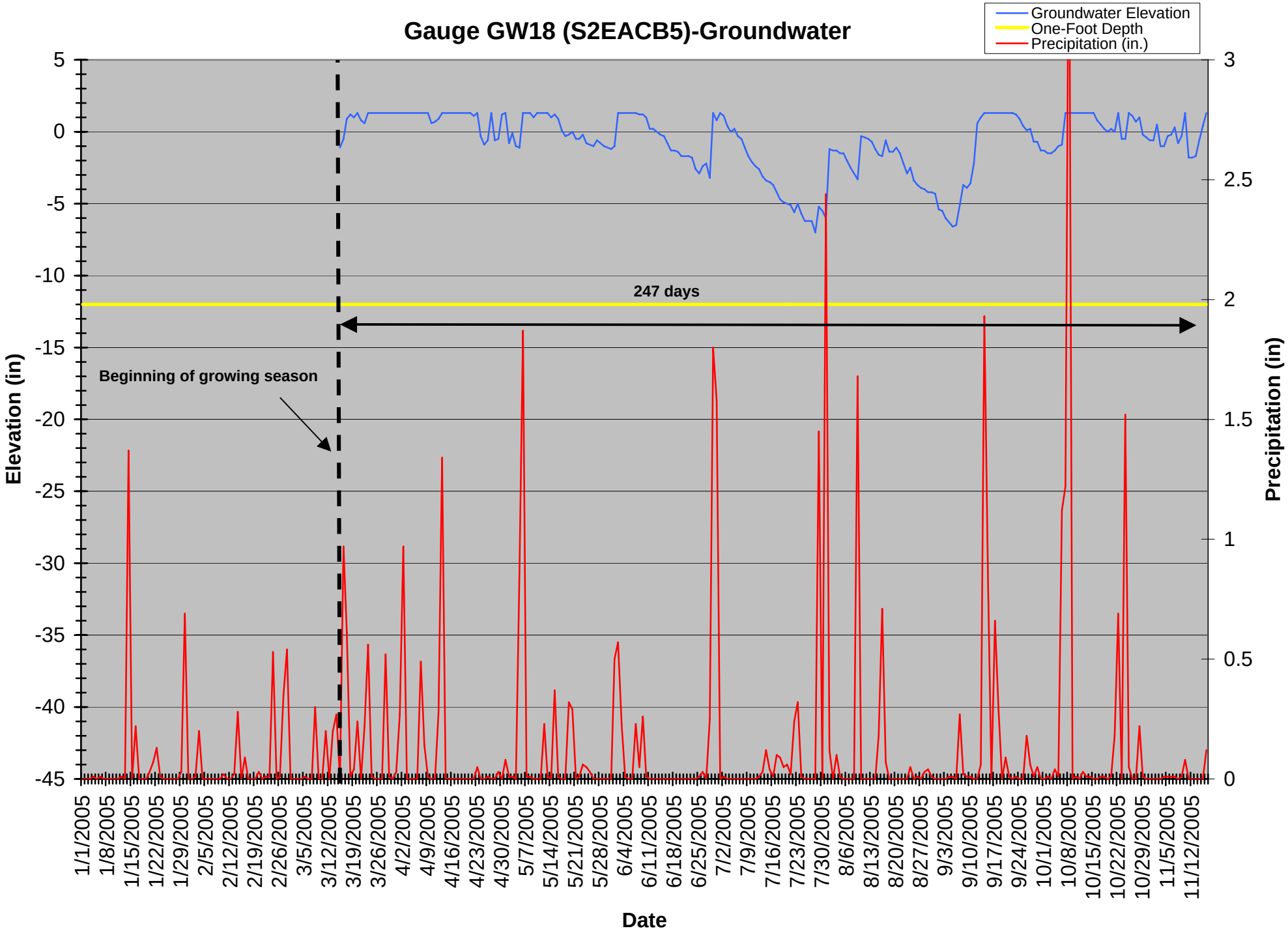
11/12/2005


Gauge GW18 (S2EACB5)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
2
1.5
1
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3/12/2005
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8/27/2005
9/3/2005
9/10/2005
9/17/2005
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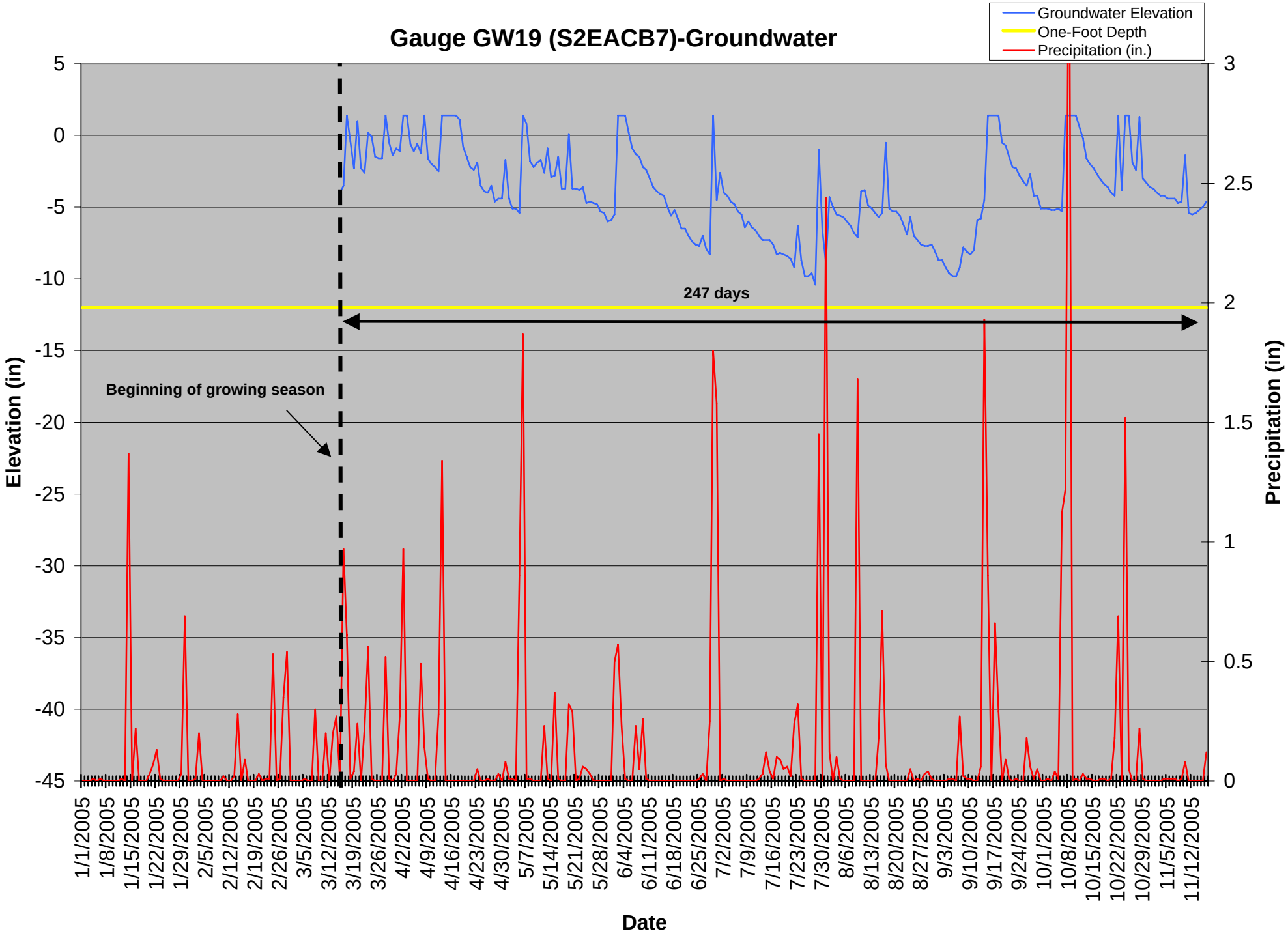
11/12/2005


Gauge GW19 (S2EACB7)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
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2/26/2005
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8/27/2005
9/3/2005
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9/17/2005
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10/8/2005
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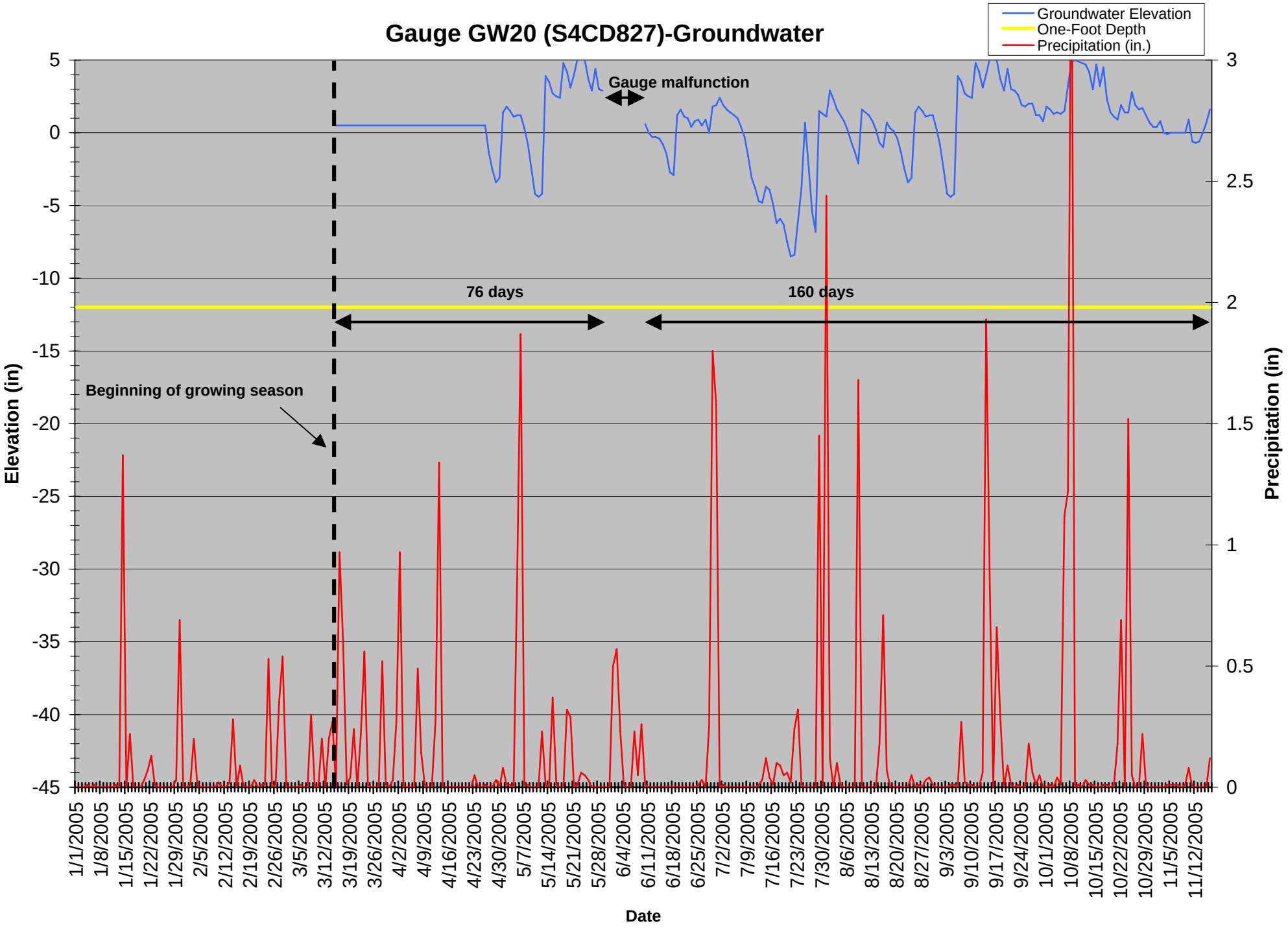
11/12/2005


Gauge GW20 (S4CD827)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
Gauge malfunction
76 days
160 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
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1/15/2005
1/22/2005
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2/19/2005
2/26/2005
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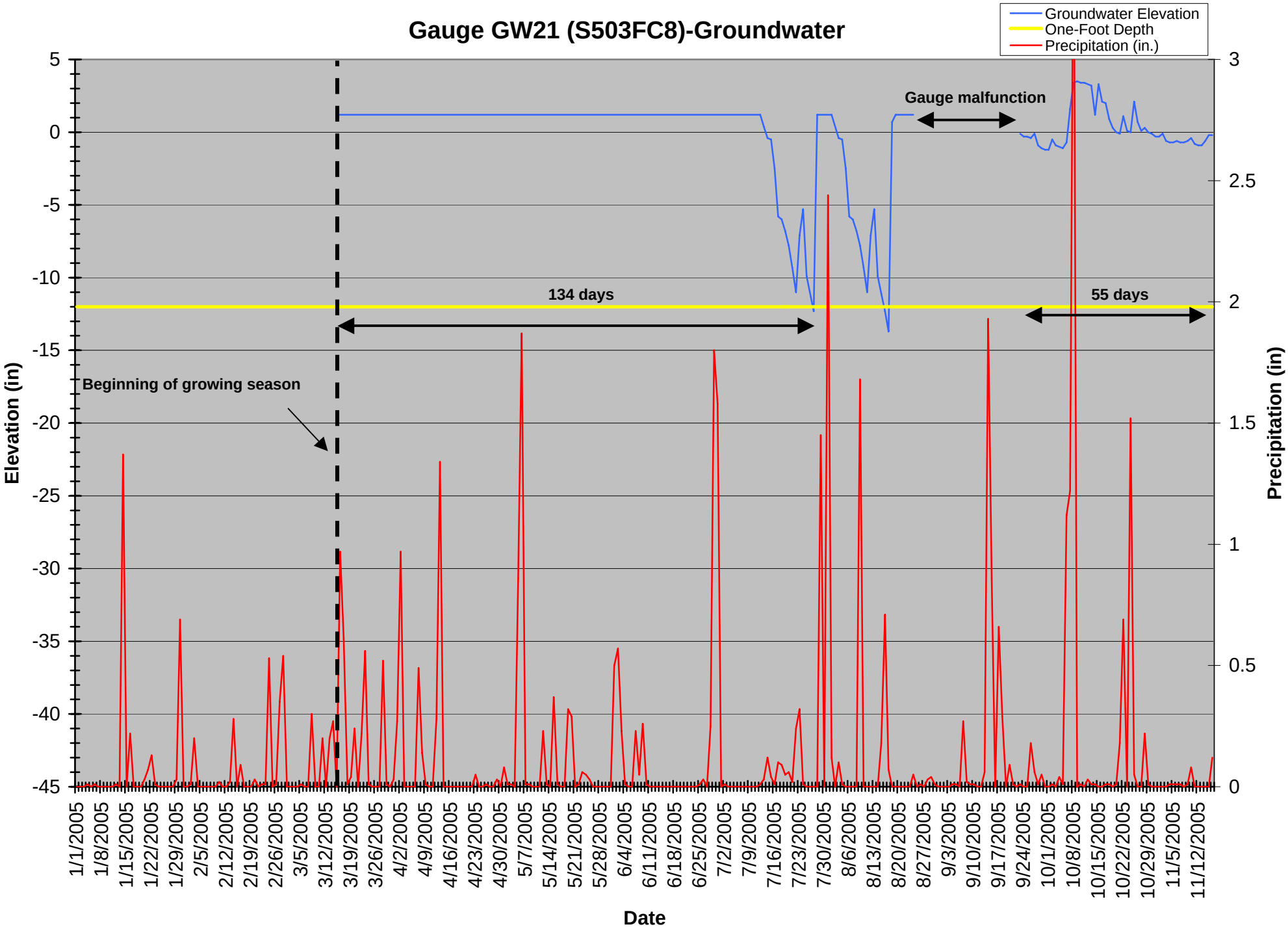
11/12/2005


Gauge GW21 (S503FC8)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
Gauge malfunction
134 days
55 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
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-40
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2.5
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8/27/2005
9/3/2005
9/10/2005
9/17/2005
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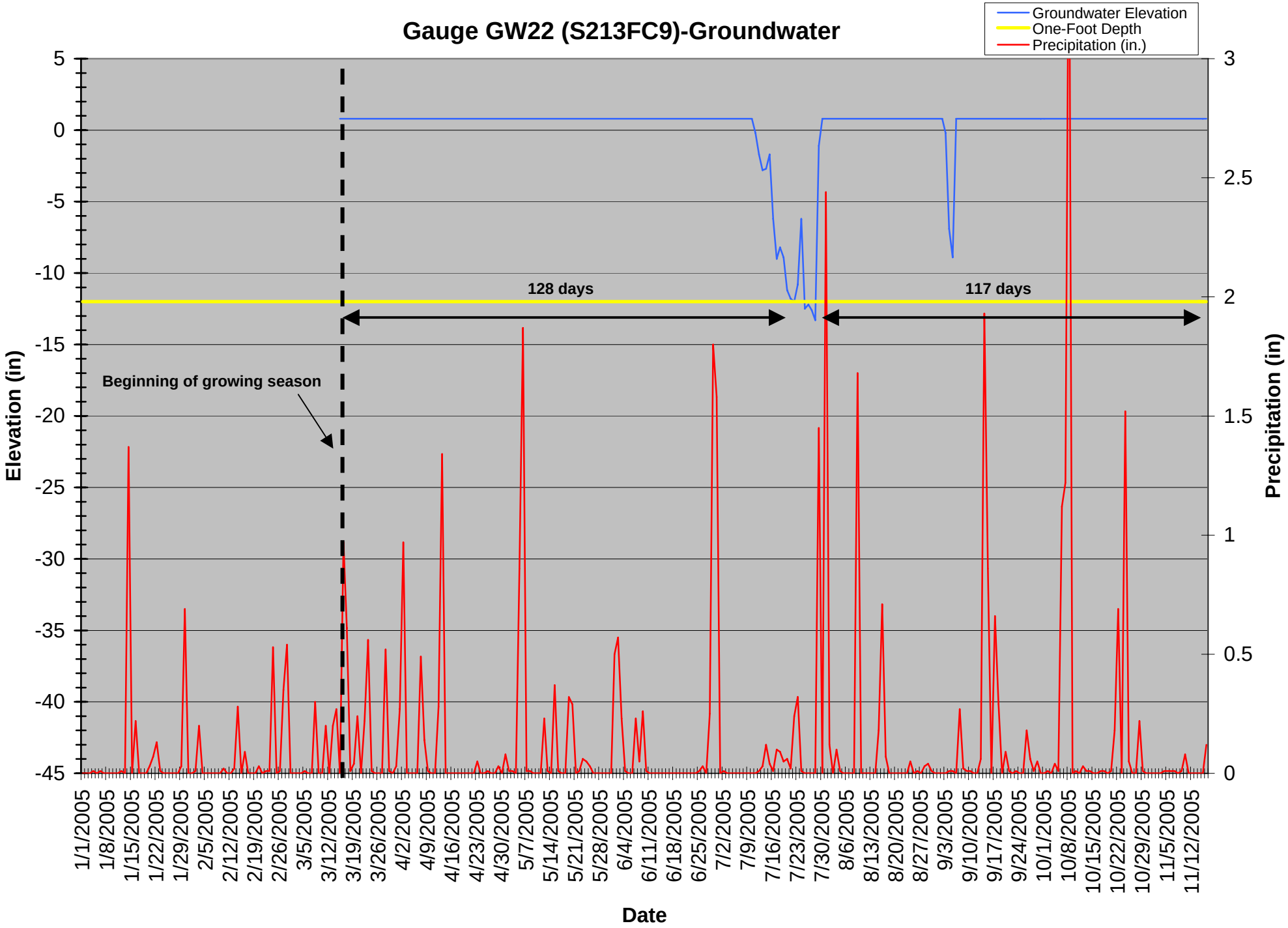
11/5/2005
11/12/2005


Gauge GW22 (S213FC9)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
128 days
117 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
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0
-5
-10
-15
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-25
-30
-35
-40
-45
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2.5
2
1.5
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0.5
0
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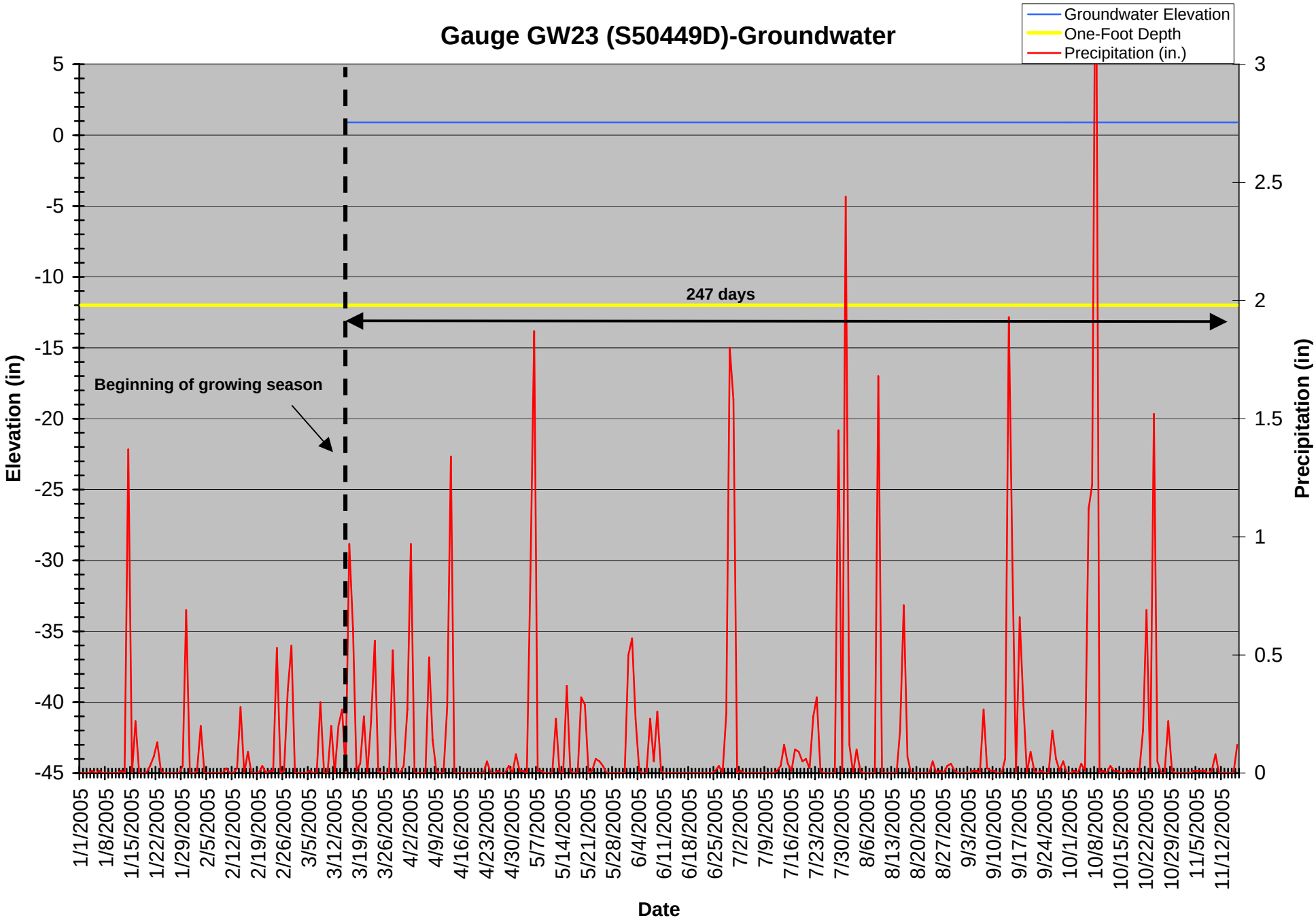
Gauge GW23 (S50449D)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
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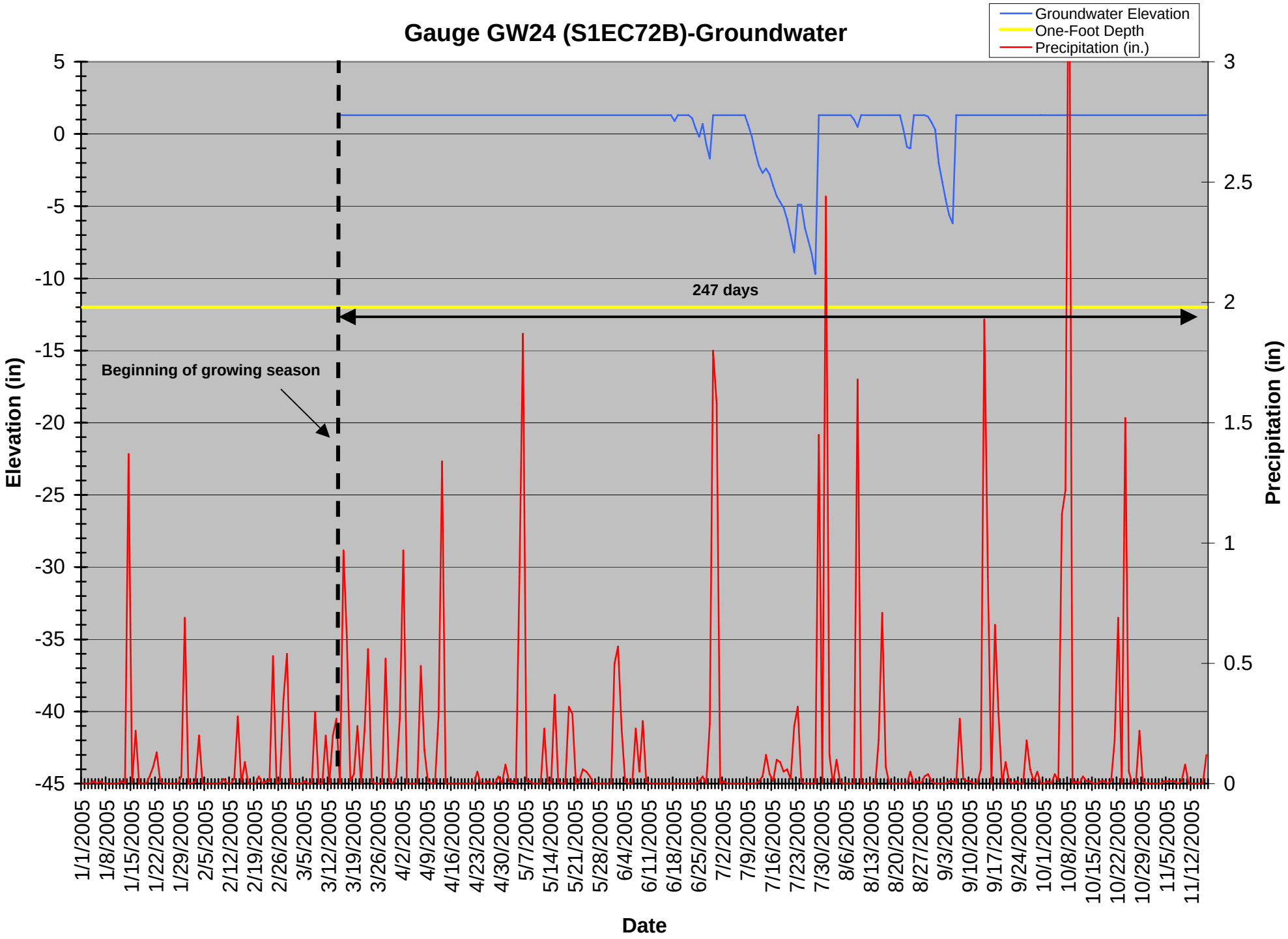
Gauge GW24 (S1EC72B)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
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-40
-45
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2.5
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1.5
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1/15/2005
1/22/2005
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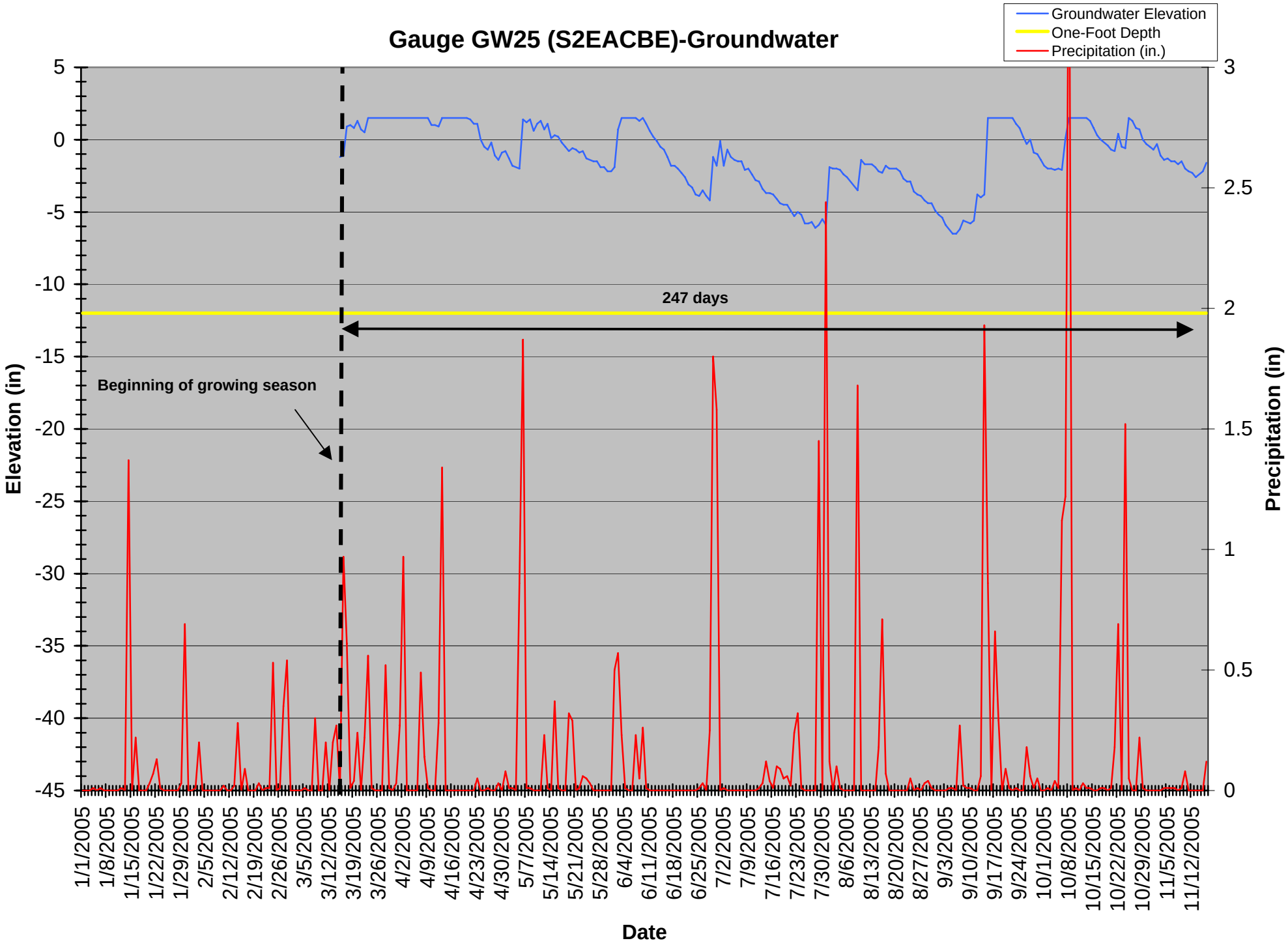
11/12/2005


Gauge GW25 (S2EACBE)-Groundwater
Groundwater Elevation
One-Foot Depth
Precipitation (in.)
247 days
Beginning of growing season
Elevation (in)
Precipitation (in)
Date
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
3
2.5
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1.5
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1/1/2005
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11/12/2005

APPENDIX B
SITE PHOTOS AND PHOTO AND PLOT LOCATIONS MAP

Grimesland Pit – Phase II

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

GRIMESLAND PHASE II PHOTO AND PLOT LOCATIONS