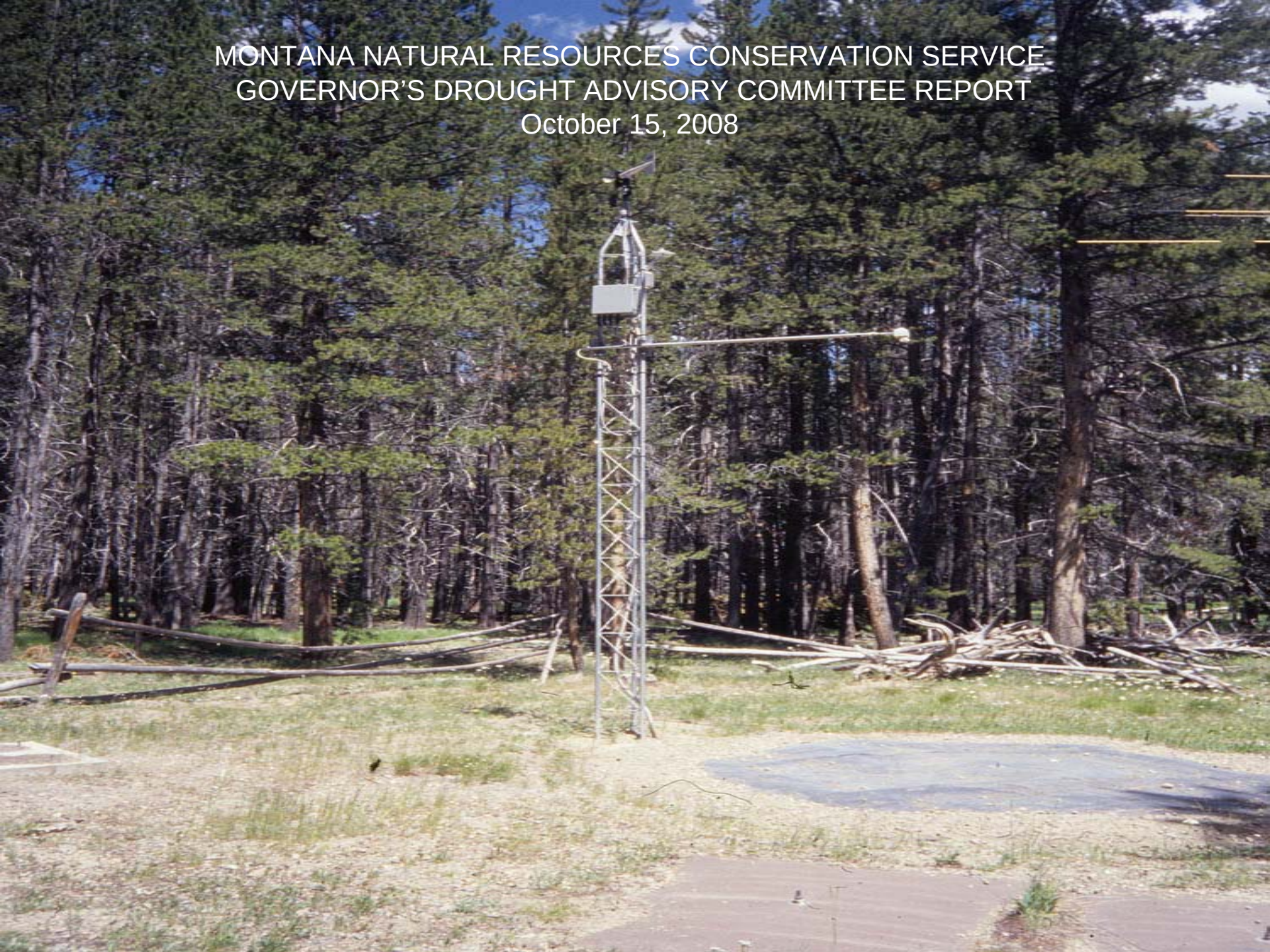
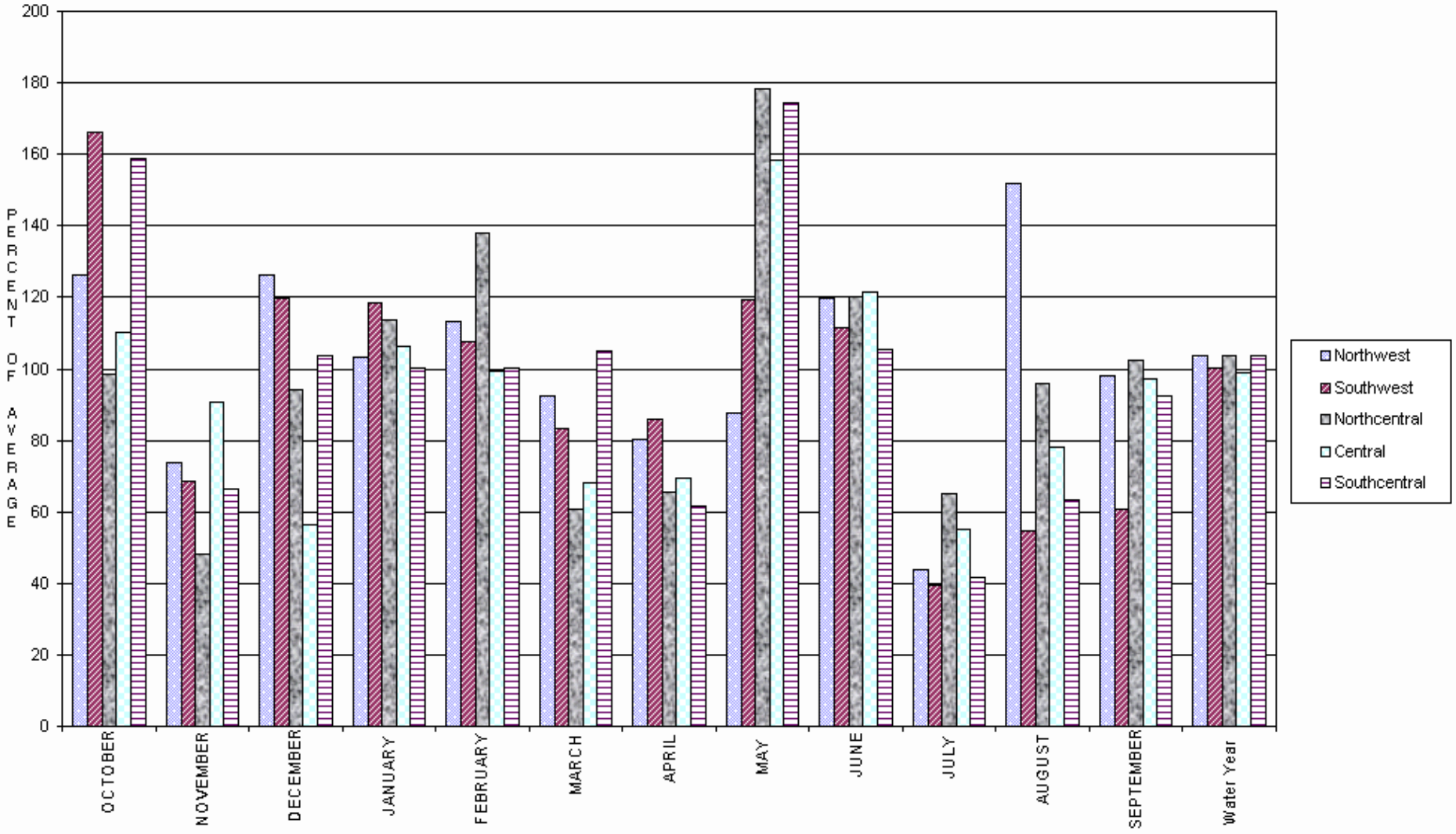
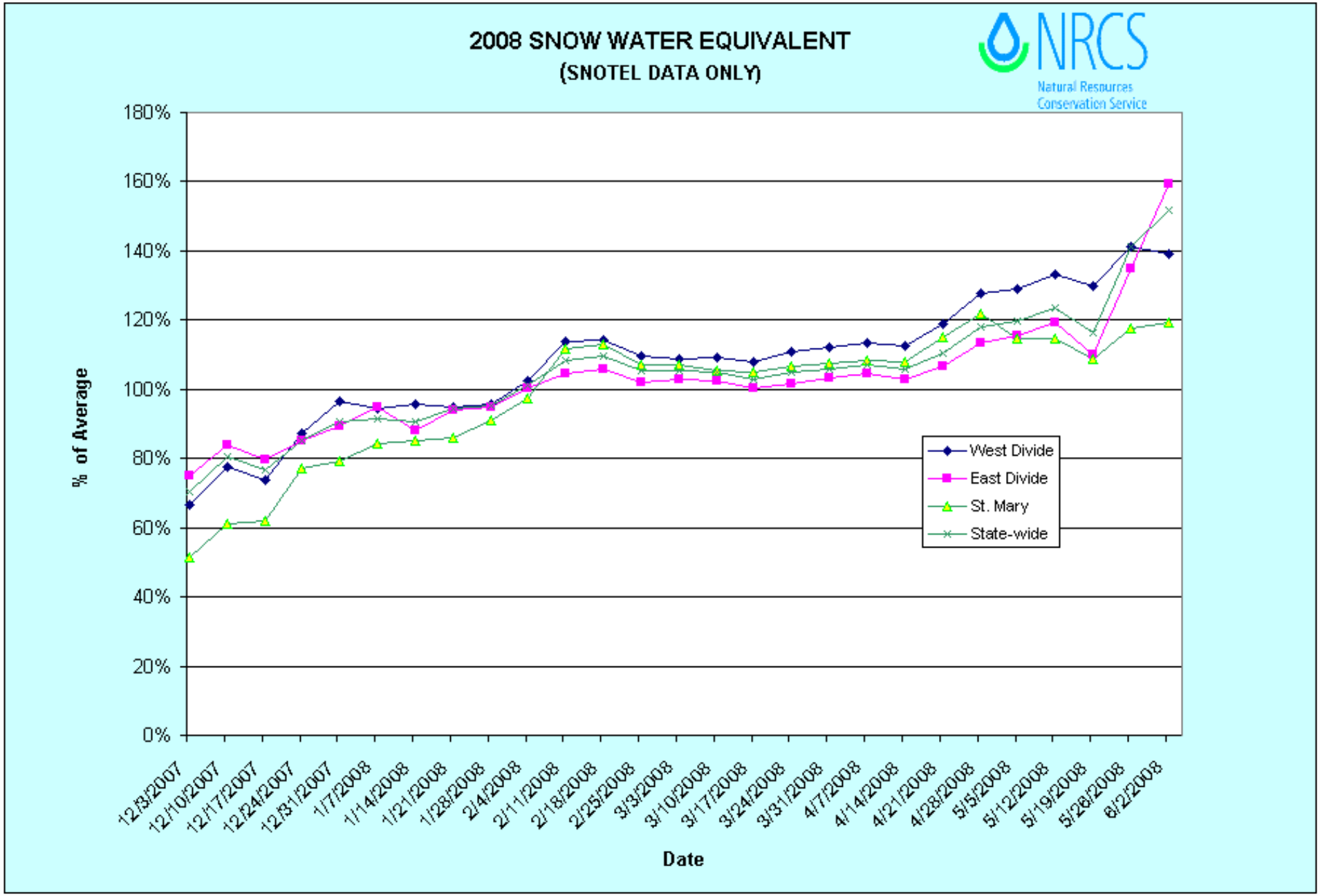
MONTANA NATURAL RESOURCES CONSERVATION SERVICE
GOVERNOR'S DROUGHT ADVISORY COMMITTEE REPORT
October 15, 2008



PRECIPITATION BY REGION - WATER YEAR 2008



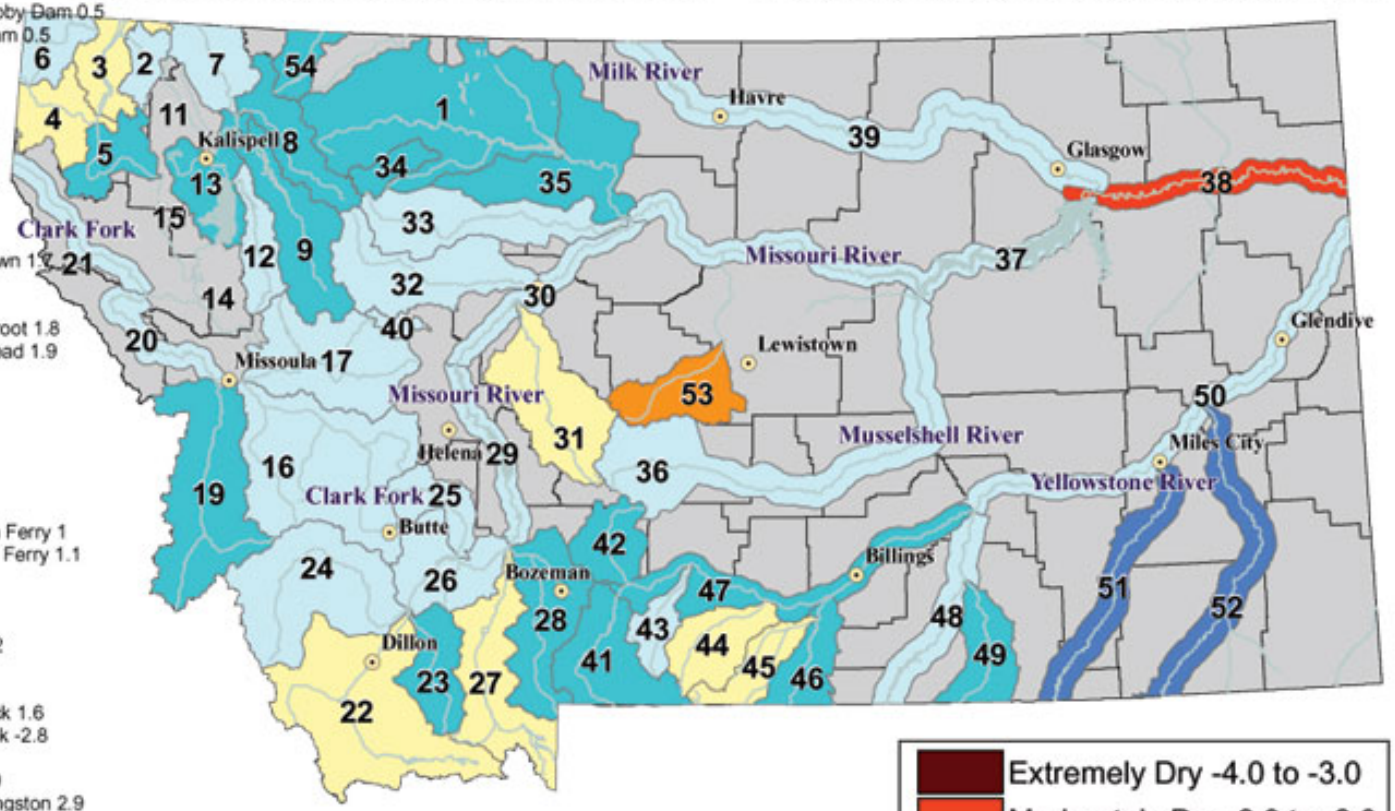

2008 SNOW WATER EQUIVALENT
(SNOTEL DATA ONLY)
NRCS
Natural Resources
Conservation Service
% of Average
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
West Divide
East Divide
St. Mary
State-wide
12/3/2007
12/10/2007
12/17/2007
12/24/2007
12/31/2007
1/7/2008
1/14/2008
1/21/2008
1/28/2008
2/4/2008
2/11/2008
2/18/2008
2/25/2008
3/3/2008
3/10/2008
3/17/2008
3/24/2008
3/31/2008
4/7/2008
4/14/2008
4/21/2008
4/28/2008
5/5/2008
5/12/2008
5/19/2008
5/26/2008
6/2/2008
Date

Surface Water Supply Index (SWSI) Values

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

RIVER INDEX & SWSI VALUES

1 Marias above Tiber Reservoir 2.7
2 Tobacco 1.2
3 Kootenai Ft. Steele to Libby Dam 0.5
4 Kootenai below Libby Dam 0.5
5 Fisher 2.9
6 Yaak 1.3
7 North FK. Flathead 1.6
8 Middle FK. Flathead 2.4
9 South FK. Flathead 2.3
12 Swan 1.6
13 Flathead at Polson 2
14 Mission Valley
15 Little Bitterroot
16 Clark Fork above Milltown 1.7
17 Blackfoot 1.2
19 Bitterroot 2.2
20 Clark Fork below Bitterroot 1.8
21 Clark Fork below Flathead 1.9
22 Beaverhead 0.1
23 Ruby 2.1
24 Big Hole 1.1
25 Boulder (Jefferson) 1.6
26 Jefferson 1.7
27 Madison 0.8
28 Gallatin 2.3
29 Missouri above Canyon Ferry 1
30 Missouri below Canyon Ferry 1.1
31 Smith 0.7
32 Sun 1.8
33 Teton 1.5
34 Birch/Dupuyer Creeks 2
35 Marias 2.9
36 Musselshell 1.2
37 Missouriabove Fort Peck 1.6
38 Missouribelow Fort Peck -2.8
39 Milk 1.8
40 Dearbornnear Craig 1.9
41 Yellowstone above Livingston 2.9
42 Shields 2.6
43 Boulder(Yellowstone) 1.6
44 Stillwater 0.9
45 Rock/Red Lodge Creeks 0.6
46 Clarks Fork 2.6
47 Yellowstone above Bighorn 2.4
48 Bighorn below Bighorn Lake 1.3
49 Little Bighorn 2
50 Yellowstone below Bighorn 1.9
51 Tongue 3.3
52 Powder 3.6
53 Upper Judith River -1.8
54 Saint Mary River 2



Current as of July 1, 2008

0 45 90 Miles

NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

NRCS Natural Resources Conservation Service

http://www.mt.nrcs.usda.gov

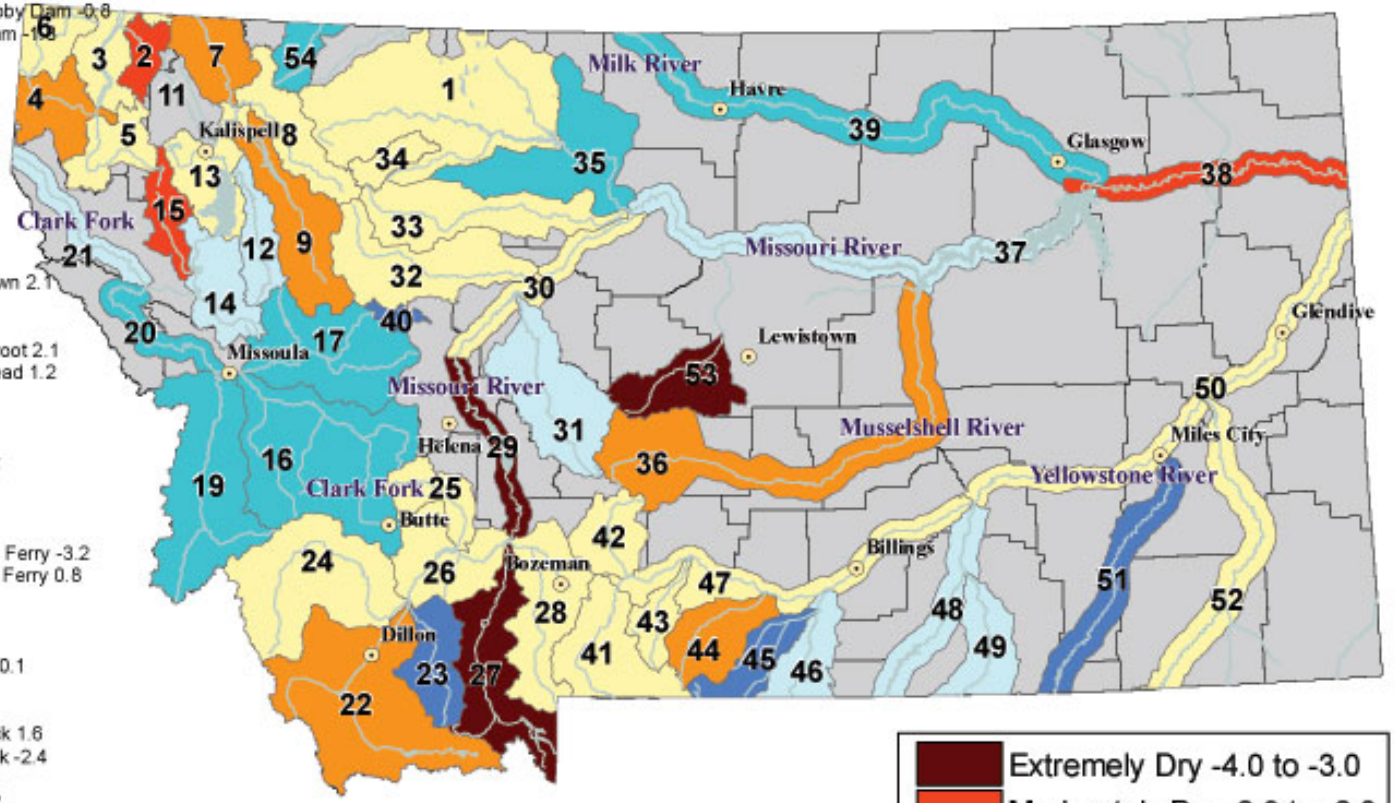
- Extremely Dry -4.0 to -3.0
- Moderately Dry -2.9 to -2.0
- Slightly Dry -1.9 to -1.0
- Near Average -0.9 to 0.9
- Sightly Wet 1.0 to 1.9
- Moderately Wet 2.0 to 2.9
- Extremely Wet 3.0 to 4.0
- SWSI Not Applicable

Surface Water Supply Index (SWSI) Values

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

RIVER INDEX & SWSI VALUES

1 Marias above Tiber Reservoir 0.6
2 Tobacco -2.6
3 Kootenai Ft. Steele to Libby Dam -0.8
4 Kootenai below Libby Dam -1.6
5 Fisher -0.7
6 Yaak -0.9
7 North FK. Flathead -1.7
8 Middle FK. Flathead -0.2
9 South FK. Flathead -1.9
11 Stillwater/Whitefish
12 Swan 1.4
13 Flathead at Polson 0.7
14 Mission Valley 1.8
15 Little Bitterroot -2.5
16 Clark Fork above Milltown 2.1
17 Blackfoot 2.1
19 Bitterroot 2.7
20 Clark Fork below Bitterroot 2.1
21 Clark Fork below Flathead 1.2
22 Beaverhead -1.4
23 Ruby 3.2
24 Big Hole 0.7
25 Boulder (Jefferson) -0.2
26 Jefferson -0.5
27 Madison -4
28 Gallatin -0.9
29 Missouri above Canyon Ferry -3.2
30 Missouri below Canyon Ferry 0.8
31 Smith 1.4
32 Sun 0.7
33 Teton -0.7
34 Birch/Dupuyer Creeks -0.1
35 Marias 2.3
36 Musselshell -1.1
37 Missouriabove Fort Peck 1.6
38 Missouribelow Fort Peck -2.4
39 Milk 2.5
40 Dearbornnear Craig 3.2
41 Yellowstone above Livingston 0.5
42 Shields -0.3
43 Boulder(Yellowstone) 0.2
44 Stillwater -1.6
45 Rock/Red Lodge Creeks 3.4
46 Clarks Fork 1.2
47 Yellowstone above Bighorn 0.2
48 Bighorn below Bighorn Lake 1.5
49 Little Bighorn 1.5
50 Yellowstone below Bighorn 0.8
51 Tongue 3.9
52 Powder 0.9
53 Upper Judith River -3
54 Saint Mary River 2.8



0 45 90 Miles

Current as of October 1, 2008

NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.

NRCS Natural Resources Conservation Service

http://www.mt.nrcs.usda.gov

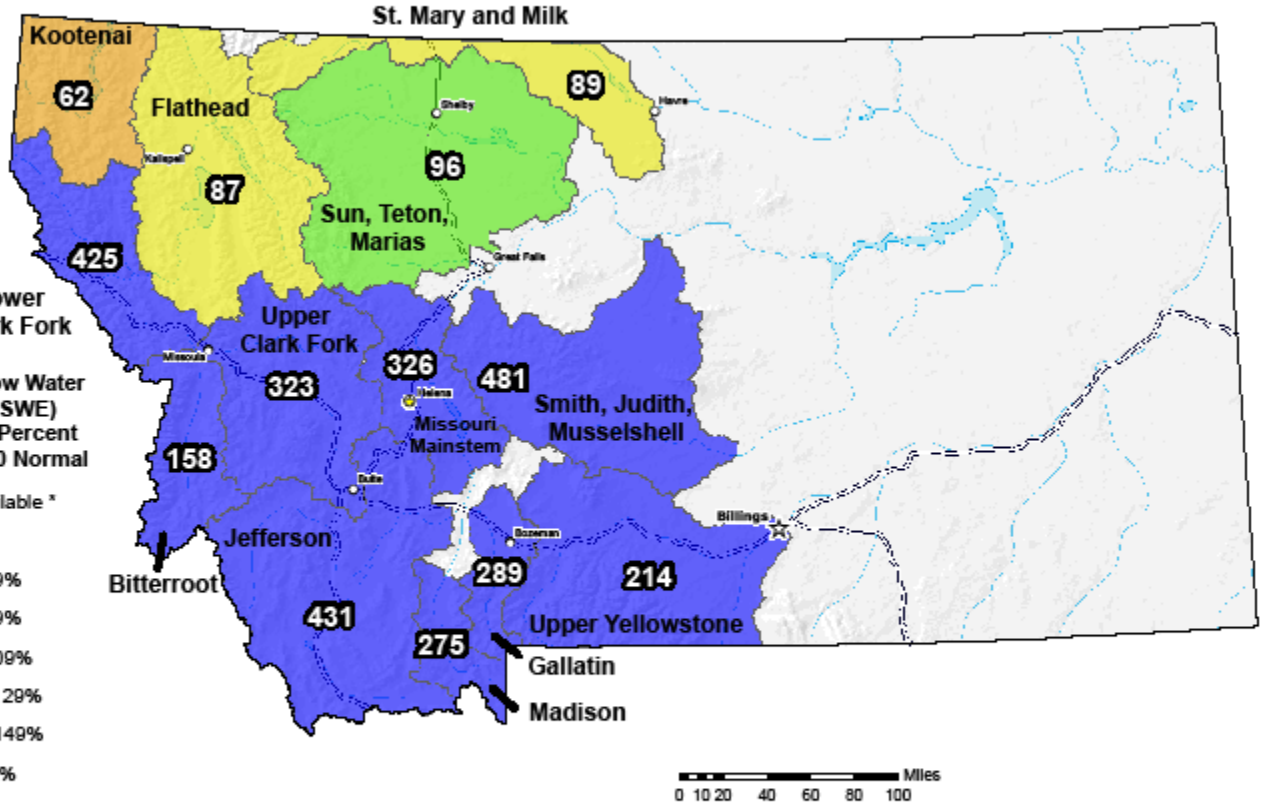
- Extremely Dry -4.0 to -3.0
- Moderately Dry -2.9 to -2.0
- Slightly Dry -1.9 to -1.0
- Near Average -0.9 to 0.9
- Sightly Wet 1.0 to 1.9
- Moderately Wet 2.0 to 2.9
- Extremely Wet 3.0 to 4.0
- SWSI Not Applicable

SNOTEL Record SWE Comparisons
October 14, 2008

Site Name	County	10/14/2008 SWE	Average SWE 14-Oct	15-Oct Record SWE	15-Oct Record Yr	Start of Record
Cole Creek	Carbon	4.7	1.1	6.4	1985	1974
Albro Lake	Madison	5.8	0.7	1.9	1997	1996
Lower Twin	Madison	3.6	0.7	2.5	1982	1980
Barker Lakes	Deer Lodge	3	0.9	4.8	1982	1979
Placer Basin	Sweet Grass	3.1	0.9	2.5	1985	1980

Montana SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Oct 15, 2008



Current Snow Water Equivalent (SWE) Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* *Data unavailable at time of posting or measurement is not representative at this time of year*

Provisional Data Subject to Revision

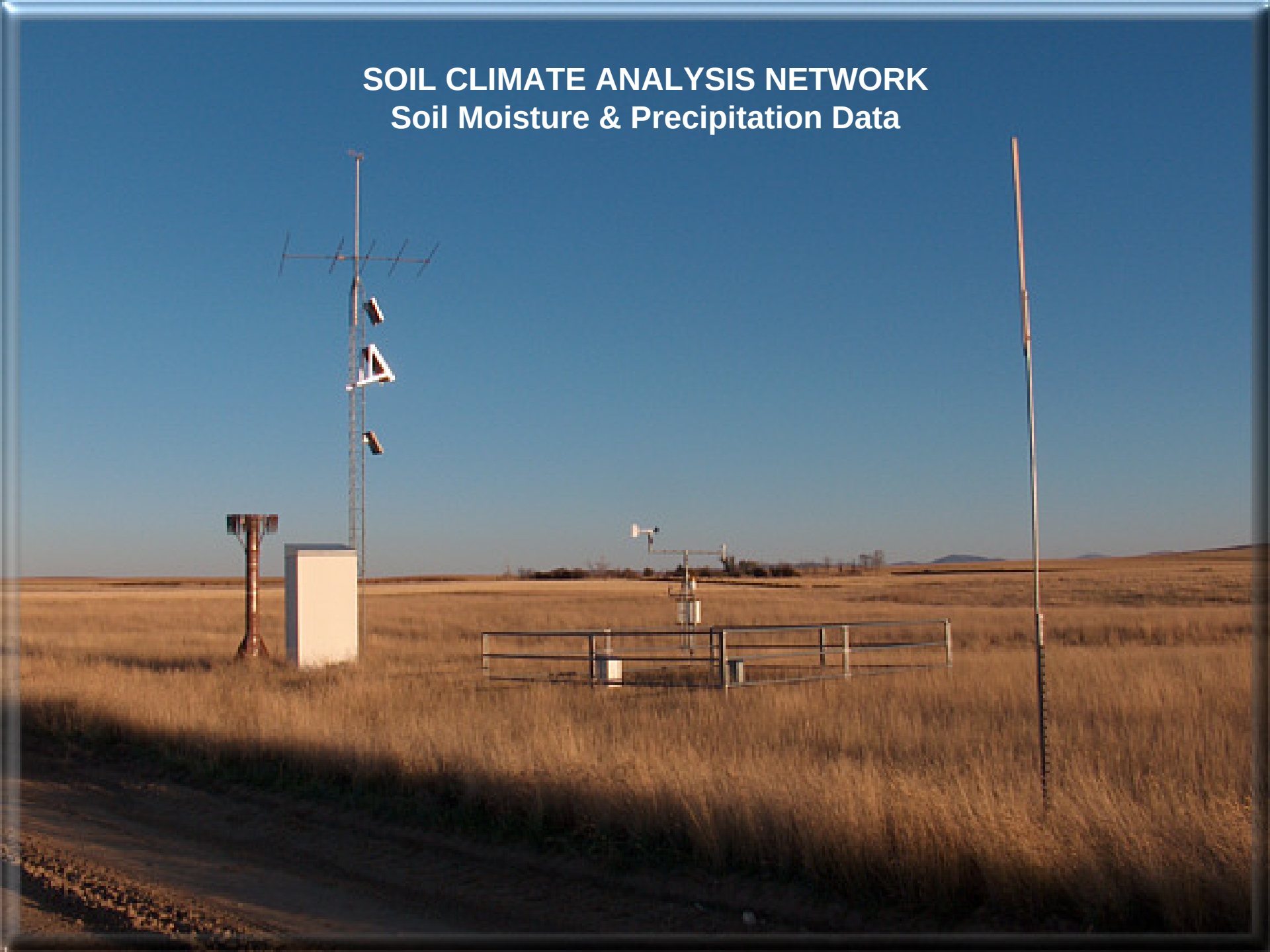
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

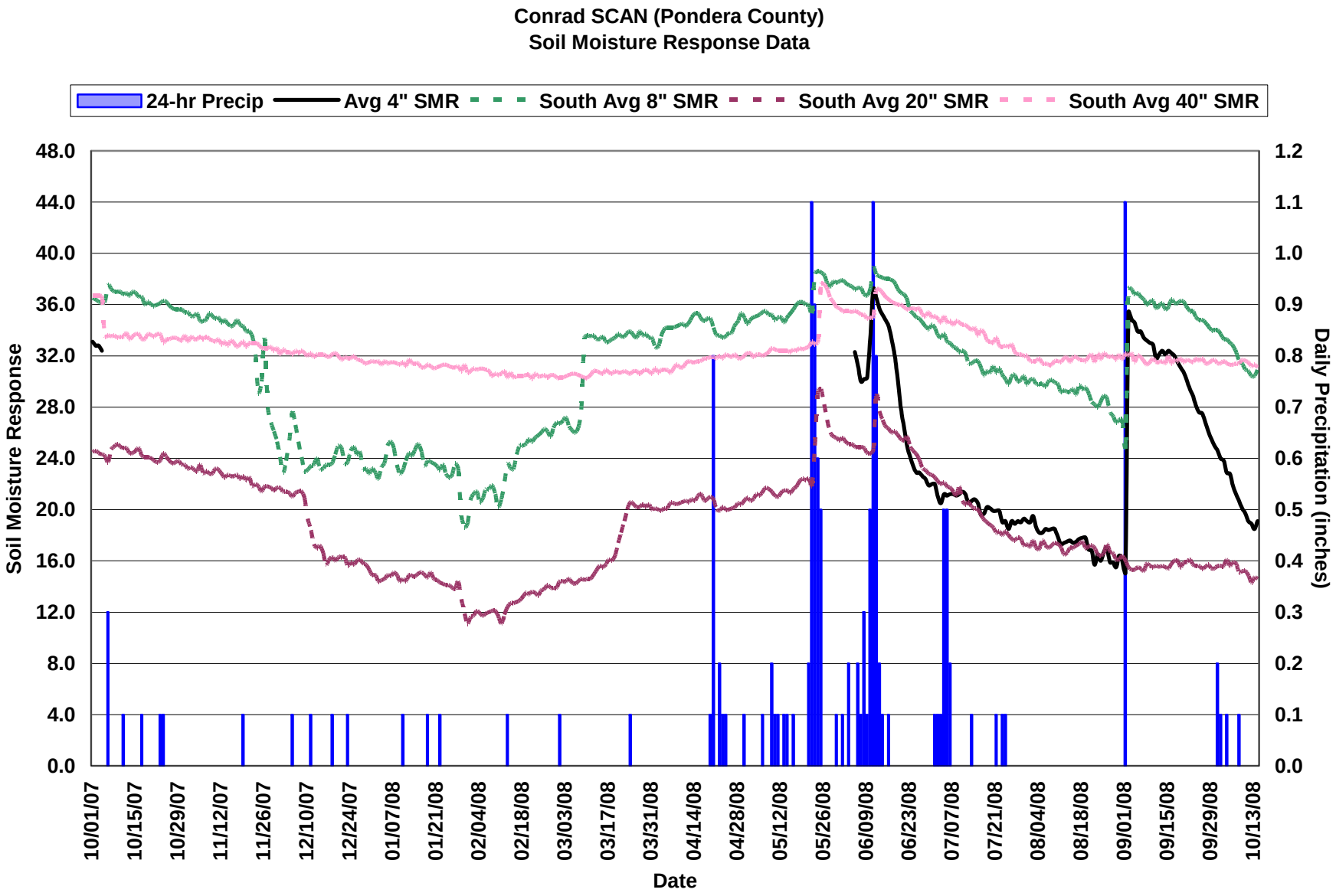
Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Tom.Pagano@por.usda.gov 503 414 3010

MONTANA NRCS SNOW SURVEY AND
WATER SUPPLY WEB PAGE

http://www.mt.nrcs.usda.gov/snow/

SOIL CLIMATE ANALYSIS NETWORK
Soil Moisture & Precipitation Data




Conrad SCAN (Pondera County)
Soil Moisture Response Data
24-hr Precip
Avg 4" SMR
South Avg 8" SMR
South Avg 20" SMR
South Avg 40" SMR
Soil Moisture Response
Daily Precipitation (inches)
Date
48.0
44.0
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
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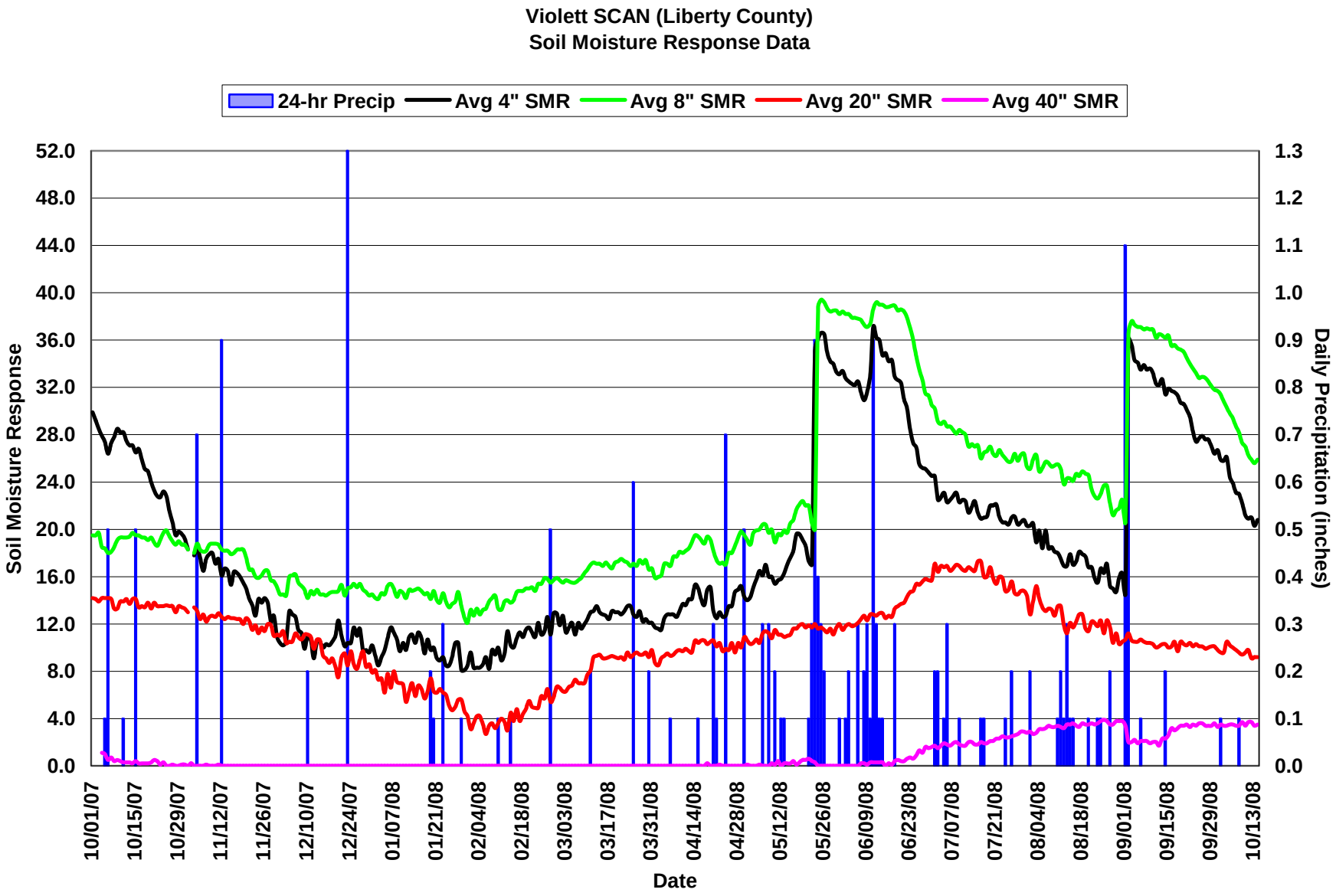
09/29/08
10/13/08


Violett SCAN (Liberty County)
Soil Moisture Response Data
24-hr Precip
Avg 4" SMR
Avg 8" SMR
Avg 20" SMR
Avg 40" SMR
Soil Moisture Response
Daily Precipitation (inches)
Date
52.0
48.0
44.0
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
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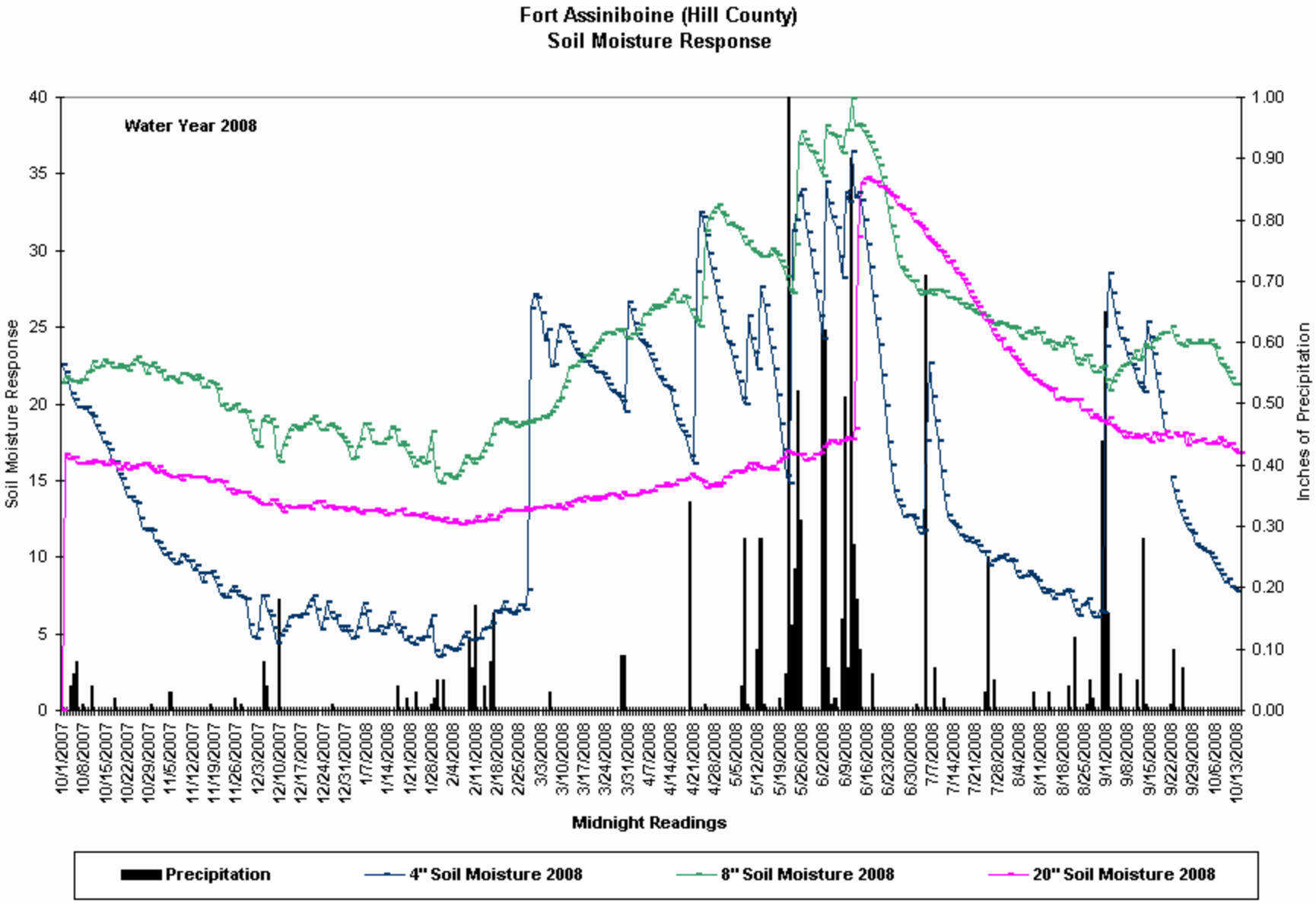
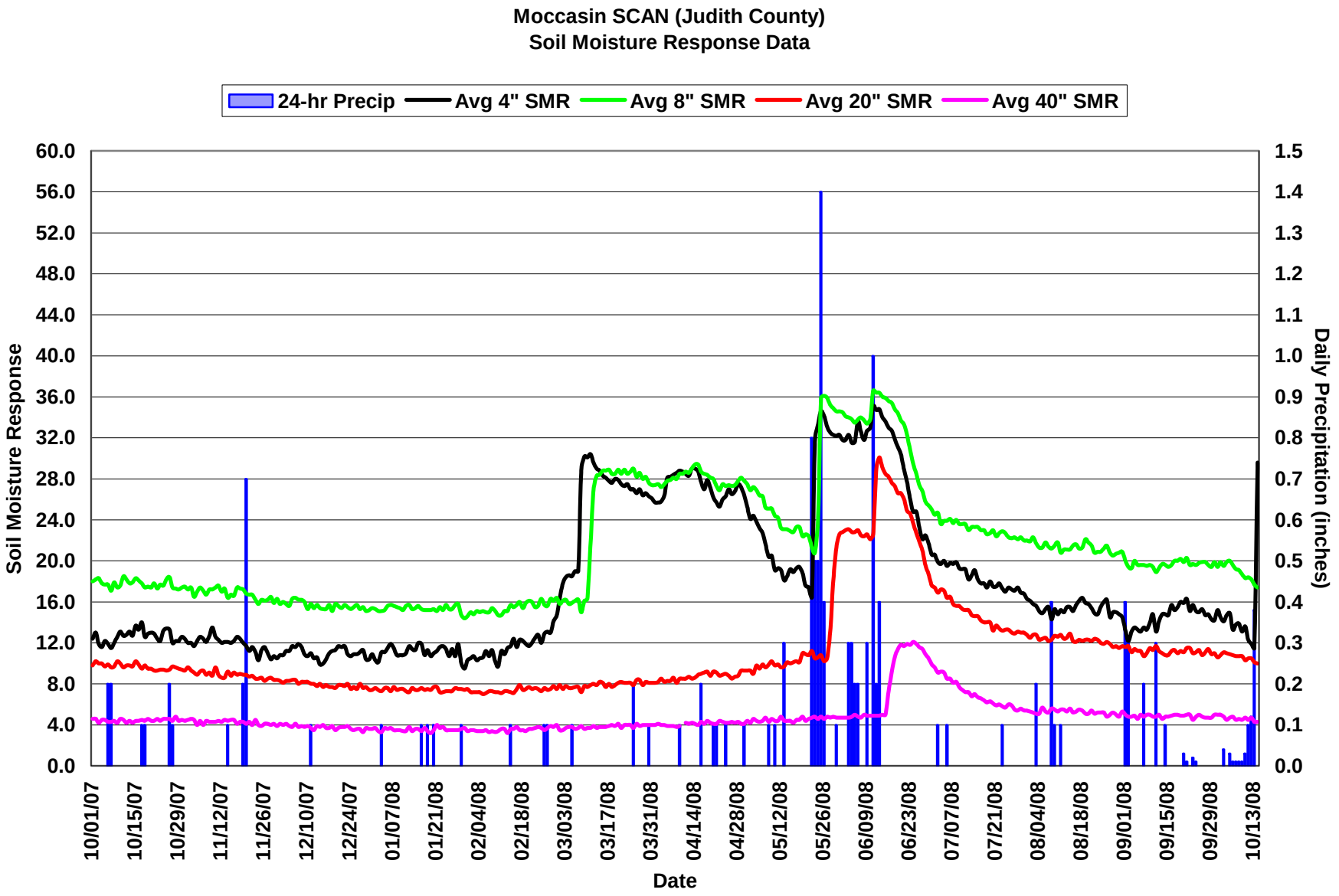
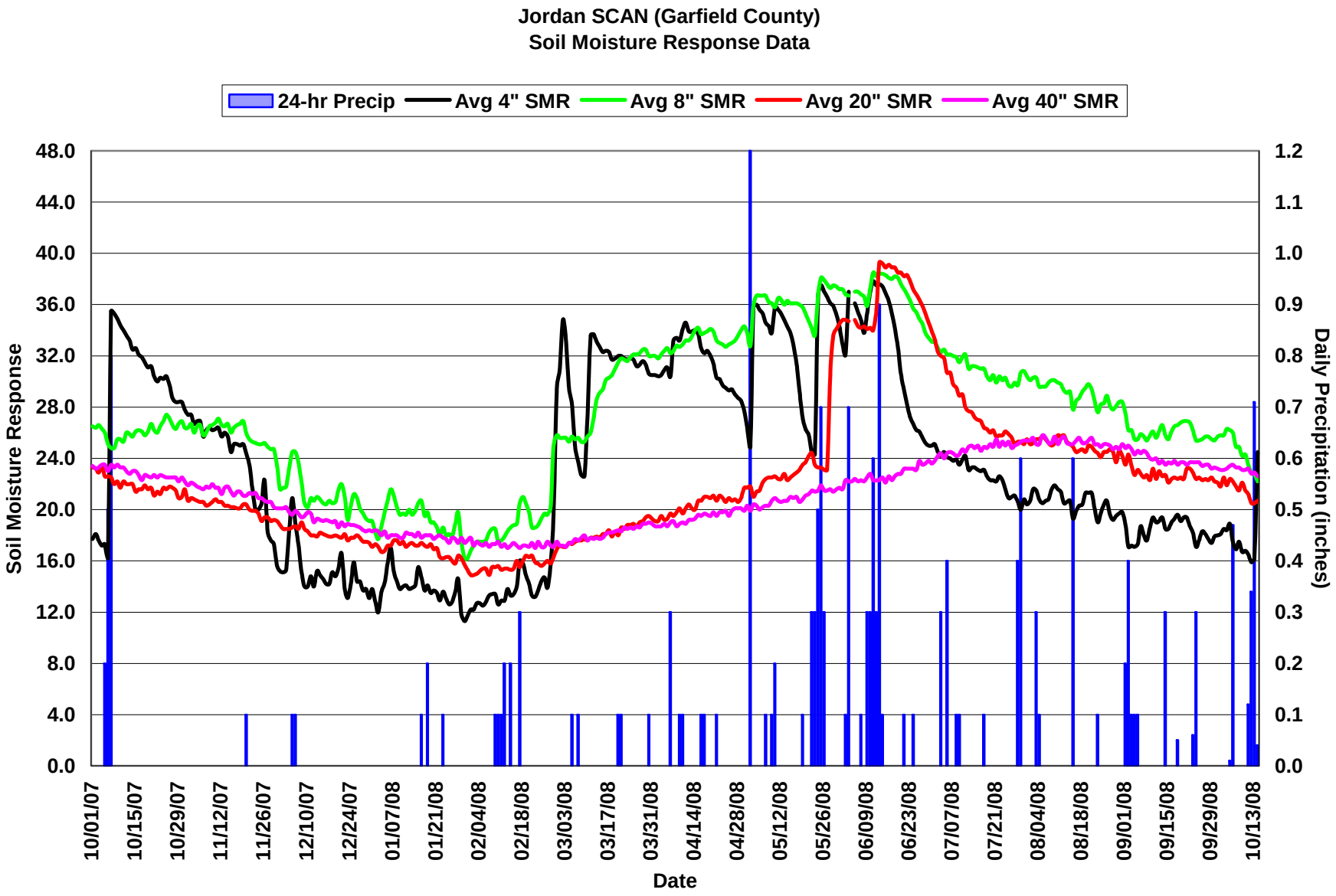
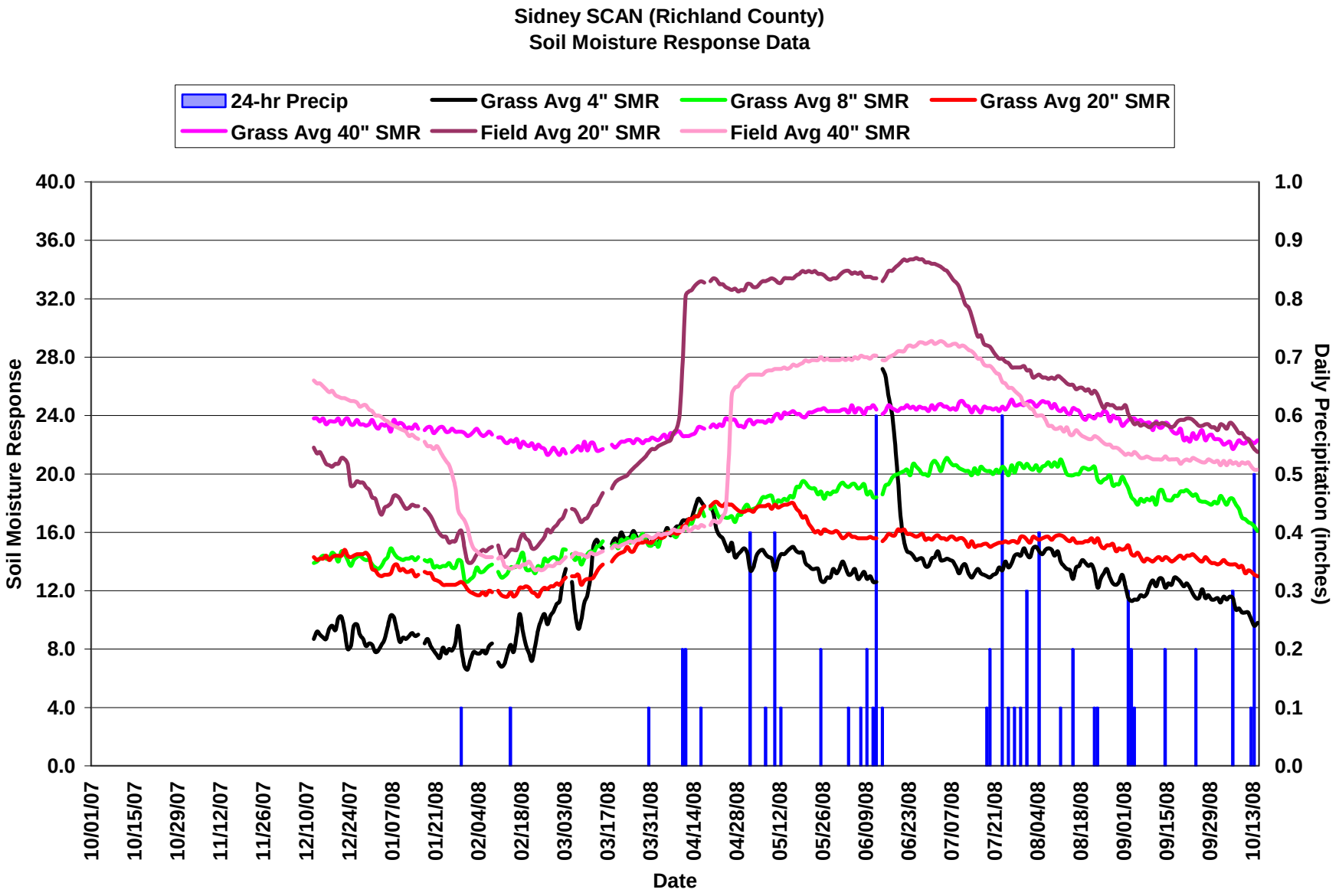
09/15/08
09/29/08
10/13/08


Fort Assiniboine (Hill County)
Soil Moisture Response
Water Year 2008
Soil Moisture Response
Inches of Precipitation
Midnight Readings
Precipitation
4" Soil Moisture 2008
8" Soil Moisture 2008
20" Soil Moisture 2008


Moccasin SCAN (Judith County)
Soil Moisture Response Data
24-hr Precip
Avg 4" SMR
Avg 8" SMR
Avg 20" SMR
Avg 40" SMR
Soil Moisture Response
Daily Precipitation (inches)
Date
60.0
56.0
52.0
48.0
44.0
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
06/23/08
07/07/08
07/21/08
08/04/08
08/18/08
09/01/08
09/15/08
09/29/08
10/13/08


Jordan SCAN (Garfield County)
Soil Moisture Response Data
24-hr Precip
Avg 4" SMR
Avg 8" SMR
Avg 20" SMR
Avg 40" SMR
Soil Moisture Response
Daily Precipitation (inches)
Date
48.0
44.0
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
06/23/08
07/07/08
07/21/08
08/04/08
08/18/08
09/01/08
09/15/08
09/29/08
10/13/08


Sidney SCAN (Richland County)
Soil Moisture Response Data
24-hr Precip
Grass Avg 4" SMR
Grass Avg 8" SMR
Grass Avg 20" SMR
Grass Avg 40" SMR
Field Avg 20" SMR
Field Avg 40" SMR
Soil Moisture Response
Daily Precipitation (inches)
Date
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
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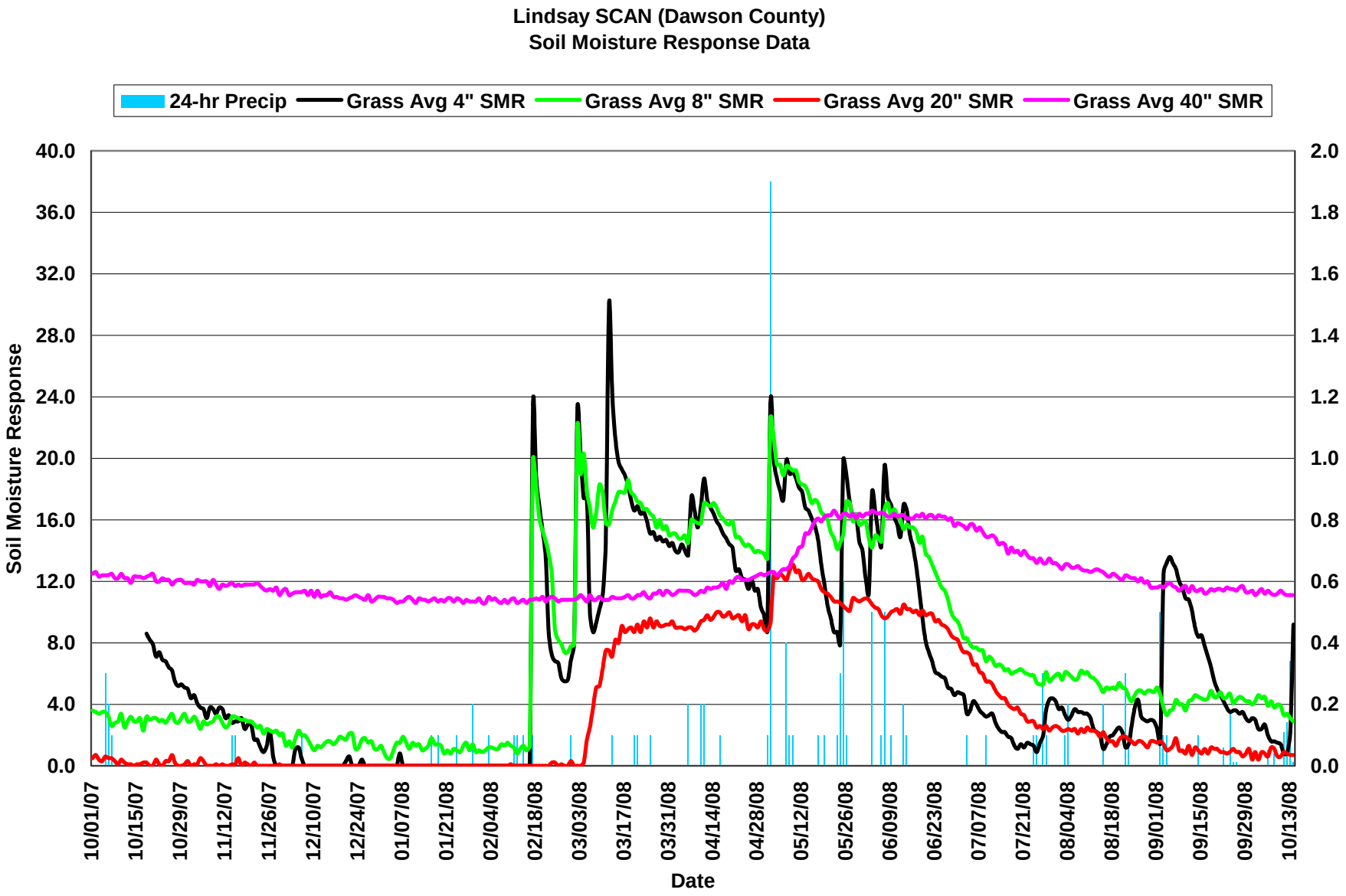
09/29/08
10/13/08


Lindsay SCAN (Dawson County)
Soil Moisture Response Data
24-hr Precip
Grass Avg 4" SMR
Grass Avg 8" SMR
Grass Avg 20" SMR
Grass Avg 40" SMR
Soil Moisture Response
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
06/23/08
07/07/08
07/21/08
08/04/08
08/18/08
09/01/08
09/15/08
09/29/08
10/13/08
Date

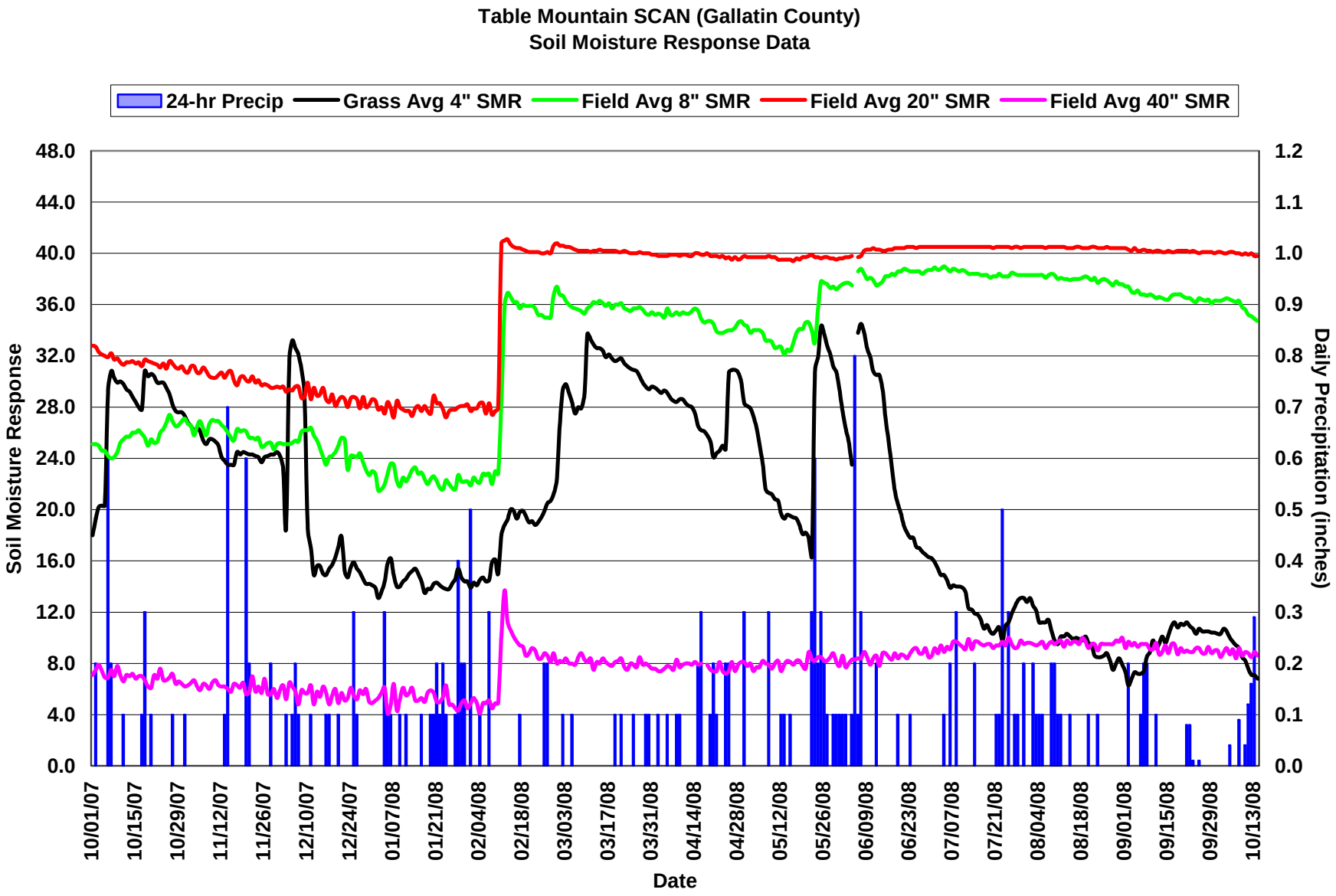


Table Mountain SCAN (Gallatin County)
Soil Moisture Response Data
24-hr Precip
Grass Avg 4" SMR
Field Avg 8" SMR
Field Avg 20" SMR
Field Avg 40" SMR
Soil Moisture Response
Daily Precipitation (inches)
Date
48.0
44.0
40.0
36.0
32.0
28.0
24.0
20.0
16.0
12.0
8.0
4.0
0.0
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
01/21/08
02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
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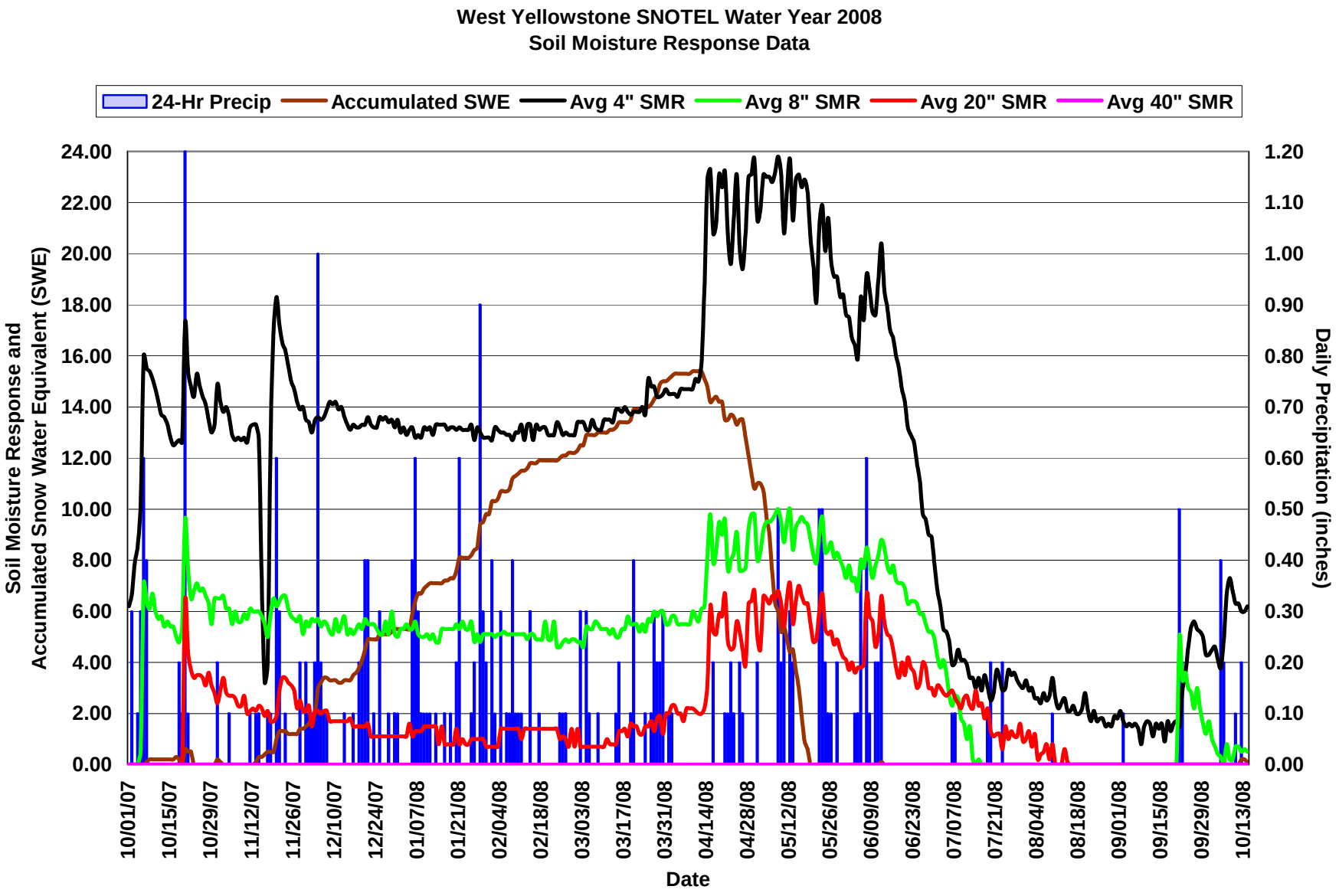
09/29/08
10/13/08


West Yellowstone SNOTEL Water Year 2008
Soil Moisture Response Data
24-Hr Precip
Accumulated SWE
Avg 4" SMR
Avg 8" SMR
Avg 20" SMR
Avg 40" SMR
Soil Moisture Response and Accumulated Snow Water Equivalent (SWE)
Daily Precipitation (inches)
Date
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/01/07
10/15/07
10/29/07
11/12/07
11/26/07
12/10/07
12/24/07
01/07/08
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02/04/08
02/18/08
03/03/08
03/17/08
03/31/08
04/14/08
04/28/08
05/12/08
05/26/08
06/09/08
06/23/08
07/07/08
07/21/08
08/04/08
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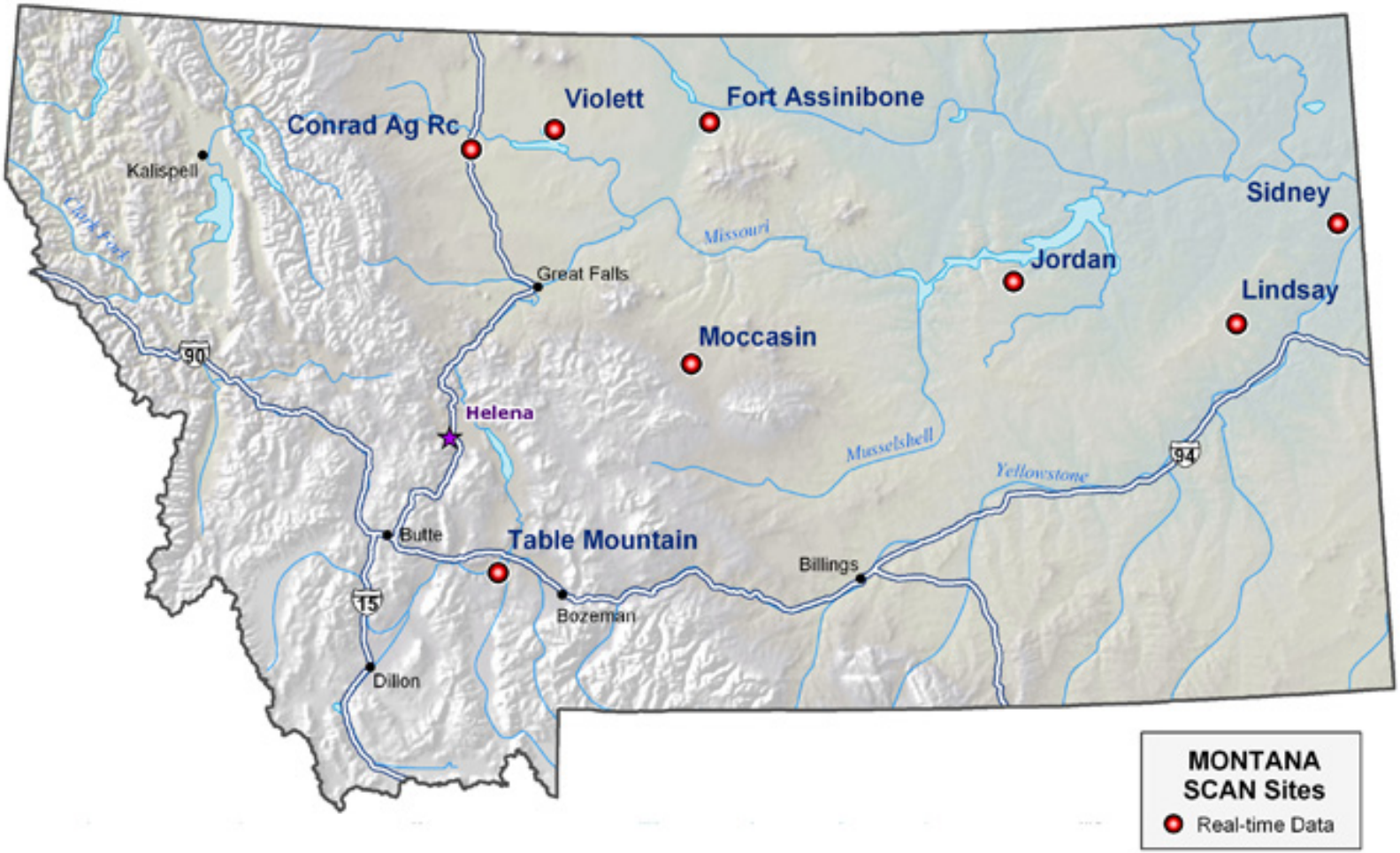
09/01/08
09/15/08
09/29/08
10/13/08

MONTANA SOIL CLIMATE ANALYSIS NETWORK (SCAN)



Web address for site data:
http://www.wcc.nrcs.usda.gov/scan/Montana/montana.html

For more information on the SCAN project contact:
Chuck Gordon, State Soil Scientist
Email address charles.gordon@mt.usda.gov
Phone 406.587.6818

SUMMARY

- October 1 SWSI's are 38% near average; 36% slightly wet to extremely wet; and 25% slightly dry to extremely dry. Overall, summer surface water conditions have held up well.
- NRCS SCAN soil moisture responses are quite varialble, depending upon where rains have occurred.
- There are 2 new SNOTEL sites on line. East Boulder Mine is located in the Boulder River watershed of the Yellowstone River Basin and Elk Peak is located south east of White Sulphur Springs on the divide between the Smith River and South Fork Musselshell River Basins.
- In Montana, there are 8 SNOTEL sites with soil moisture sensors and 4-6 planned to be operational by next fall. In the Yellowstone River Basin of Wyoming, there is 1 operational and 3 planned to be operational by next fall.