2012-2013 WINTER STORM REPORTS:

Winter 2012-2013 Storm #22: May 6-7, 2013:
Storm precip began between 0400-0500 hrs MST Monday May 6 (DOY 126)
Storm precipitation ended: 0400 hrs the next morning
Storm duration = 24 hrs
Storm total water content at SASP = 12 mm (0.47 inches)
Mean Precip intensity: 0.5 mm/hr
Max Precip intensity: 3mm/hr from 1100-1200 hrs
Max gain in snow depth at SASP during storm = 10 cm (4 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 15 cm (6 inches) of snow
Wind behavior at PTSP:

![Wind Behavior Diagram]

CSAS Putney Study Plot 12,323 ft.
No. of hours: 24
No. of missing hours: 0
From hour ending: May 06, 2013 0500 MST
To: May 07, 2013 0400 MST
Avg. wind dir: 214
Avg. wind spd: 10.9 mph
Peak gust: 34.8 mph

Center for Snow & Avalanche Studies, snowstudies.org
Winter 2012-2013 Storm #21: April 17-18, 2013: (preceded by and including Dust-on-Snow Event #8)
Storm precip began between 0400-0500 hrs MST Wednesday April 17 (DOY 107)
Storm precipitation ended: 0200 hrs the next day
Storm duration = 22 hrs
Storm total water content at SASP = 16 mm (0.63 inches)
Mean Precip intensity: 0.73 mm/hr
Max Precip intensity: 3mm/hr from 1600-1700 hrs
Max gain in snow depth at SASP during storm = 21 cm (8.3 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 13 cm (5.1 inches) of snow
Wind behavior at PTSP: Winds switched from southwesterly to northerly at noon.
Winter 2012-2013 Storm #20: April 14, 2013: (included Dust-on-Snow Event #7)
Storm precip began between 2400-0100 hrs MST April 14 (DOY 104)
Storm precipitation ended: 0900 hrs on the same day
Storm duration = 9 hrs
Storm total water content at SASP = 27mm (1.1 inches)
Mean Precip intensity: 3.0 mm/hr
Max Precip intensity: 4mm/hr from 0300-0400 hrs and again from 0600-0800 hrs
Max gain in snow depth at SASP during storm = 29 cm (11.4 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 10 cm (3.9 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #19: April 8-9, 2013: (included Dust-on-Snow Event #6)
Storm precip began between 1100-1200 hrs MST April 8 (DOY 98)
Storm precipitation ended: 1700 hrs April 9 (DOY 99)
Storm duration = 30 hrs
Storm total water content at SASP = 30mm (1.18 inches)
Mean Precip intensity: 1.0 mm/hr
Max Precip intensity: 3mm/hr from 2100-2200 hrs on April 8 (DOY 89)
Max gain in snow depth at SASP during storm = 30 cm (11.8 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 25 cm (9.84 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #18: March 20-21: (included Dust-on-Snow Event #5)
Storm precip began between 1700-1800 hrs MST March 20th (DOY 79)
Storm precipitation ended: 1300 hrs March 21st (DOY 80)
Storm duration = 20 hrs
Storm total water content at SASP = 12mm (0.5 inches)
Mean Precip intensity: 0.6 mm/hr
Max Precip intensity: 2mm/hr from 0500-0700 hrs on March 21st (DOY 80)
Max gain in snow depth at SASP during storm = 20 cm (7.9 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 21 cm (8.3 inches) of snow
Wind behavior at PTSP:

![Wind rose diagram](image_url)
Winter 2012-2013 Storm #17: March 8-10, 2013:

Storm precip began between 1000-1100 hrs MST Friday, March 8 (DOY 67)

Storm precipitation ended: 0400 hrs Sunday, March 10th (DOY 69)

Storm duration = 42 hrs

Storm total water content at SASP = 19mm (0.75 inches)

Mean Precip Intensity: 0.45 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour on March 8 (DOY 67) between 1300-1400 hrs

and again between 1800-1900 hrs

Max gain in snow depth at SASP during storm = 19 cm (7.5 inches) of snow

Max gain in snow depth at SBSP during storm (wind affected) = 19 cm (7.5 inches) of snow

Wind behavior at PTSP:

- Avg. wind dir: 36
- Avg. wind spd: 18.1 mph
- Peak gust: 46.0 mph
Winter 2012-2013 Storm #16: March 3-4, 2013:
Storm precip began between 1700-1800 hrs MST Sunday, March 3rd (DOY 62)
Storm precipitation ended: 1900 hrs Monday, March 4th (DOY 63)
Storm duration = 26 hrs
Storm total water content at SASP = 23mm (0.9 inches)
Mean Precip Intensity: 0.88 mm/hr
Max 1 Hour Precip Intensity = 2 mm/hour during 4 separate hours throughout the storm
Max gain in snow depth at SASP during storm = 24 cm (9.4 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 18 cm (7.1 inches) of snow
Wind behavior at PTSP:

CSAS Putney Study Plot 12,323 ft.
No. of hours: 26
No. of missing hours: 0
From hour ending: Mar 03, 2013 1800 MST
To: Mar 04, 2013 1900 MST
Avg. wind dir: 264
Avg. wind spd: 22.5 mph
Peak gust: 63.4 mph

Average Hourly Wind Speed(mph)

0.0%
4%
8%
12%
16%
20%
24%
28%
32%
36%
40%

>45
22-45
11-22
6-11
0-6
calm

Center for Snow & Avalanche Studies, snowstudies.org
Winter 2012-2013 Storm #15: February 26, 2013:
Storm precip began between 0700-0800 hrs MST Tuesday, Feb 26 (DOY 57)
Storm precipitation ended: 2000 hrs same day
Storm duration = 13 hrs
Storm total water content at SASP = 17mm (0.67 inches)
Mean Precip Intensity: 1.31 mm/hr
Max 1 Hour Precip Intensity = 3 mm/hour between 0900 and 1000 hours near start of storm
Max gain in snow depth at SASP during storm = 15 cm (5.9 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 7 cm (2.75 inches) of snow
Wind behavior at PTSP:

![Wind Speed Chart]

CSAS Putney Study Plot 12.323 ft.
No. of hours: 13
No. of missing hours: 0
From hour ending: Feb 28, 2013 0800 MST
To: Feb 26, 2013 2000 MST
Avg. wind dir: 0
Avg. wind spd: 18.6 mph
Peak gust: 39.5 mph

Average Hourly Wind Speed (mph):
- >45
- 22-45
- 11-22
- 6-11
- 0-6
- calm
Winter 2012-2013 Storm #14: February 20-22, 2013:
Storm precip began between 0900-1000 hrs MST Wednesday, Feb 20
Storm precipitation ended: 1600 hrs MST, Friday Feb 22
Storm duration = 54 hrs
Storm total water content at SASP = 21mm (0.83inches)
MeanPrecipIntensity: .38 mm/hr
Max 1 Hour Precip Intensity = 2 mm/hour between 1800 and 1900 hours on Thursday Feb 21st (DOY 52)

Max gain in snow depth at SASP during storm = 17 cm (6.7 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 35 cm (13.8 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #13: February 8-10, 2013:
Storm precip began between 0400-0500 hrs MST Friday, Feb 8
Storm precipitation ended: 0400 hrs MST, Sunday Feb 10
Storm duration = 48 hrs
Storm total water content at SASP = 27mm (1.1 inches)
Mean Precip Intensity: .56 mm/hr
Max 1 Hour Precip Intensity = 3 mm/hour between 0700-0800 hrs on Saturday Feb 9
Max gain in snow depth at SASP during storm = 23 cm (9.1 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 17 cm (6.7 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #12: January 30-31, 2013:

Storm precip began between 1300-1400 hrs MST Wednesday, Jan 30

Storm precipitation ended: 0500 hrs MST, Thursday Jan 31

Storm duration = 16 hrs

Storm total water content at SASP = 14mm (0.55 inches)

Mean Precip Intensity: 0.9 mm/hr

Max 1 Hour Precip Intensity = 1 mm/hour

Max gain in snow depth at SASP during storm = 19 cm (7.5 inches) of snow

Max gain in snow depth at SBSP during storm (wind affected) = 17 cm (6.7 inches) of snow

Wind behavior at PTSP:

![Wind Speed Diagram]

- Avg. wind dir: 308
- Avg. wind spd: 25.6 mph
- Peak gust: 43.3 mph
Winter 2012-2013 Storm #11: January 27-29, 2013:
Storm precip began between 1900-2000 hrs MST Sunday, Jan 27
Storm precipitation ended: 0700 hrs MST, Tuesday Jan 29
Storm duration = 36 hrs
Storm total water content at SASP = 25mm (1 inch)
Mean Precip Intensity: 0.7 mm/hr (.03 inches/hour)
Max 1 Hour Precip Intensity = 3 mm/hour between 2200 hrs and 2300 hrs on Jan 27
Max gain in snow depth at SASP during storm = 26 cm (10.2 inches) of snow
Max gain in snow depth at SBSP during storm (wind affected) = 18 cm (7 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #10: January 26-27, 2013:
Storm precip began between 0900-1000 hrs MST Saturday, Jan 26
Storm precipitation ended: 1200 hrs MST, Sunday Jan 27
Storm duration = 27 hrs
Storm total water content at SASP = 31mm (1.2 inches)
Mean Precip Intensity: 1.15 mm/hr (.05 inches/hour)
Max 1 Hour Precip Intensity = 3 mm/hour 1600 hrs on Jan 26 and 1100 hrs on Jan 27
Max gain in snow depth at SASP during storm = 32 cm (12.6 inches) of snow
Max gain in snow depth at SBSP during storm = 27 cm (10.6 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #9: January 10-11, 2013
Storm precip began between 1600-1700 hrs MST Thursday, Jan 10
Storm precipitation ended: 1400 hrs MST, Friday Jan 11
Storm duration = 22 hrs
Storm total water content at SASP = 25mm (0.98 inches)
Mean Precip Intensity: 1.14 mm/hr (.04 inches/hour)
Max 1 Hour Precip Intensity = 2 mm/hour
Max gain in snow depth at SASP during storm = 37 cm (14.6 inches) of snow
Max gain in snow depth at SBSP during storm = 29 cm (11.4 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #8: December 26-28, 2012
Storm precip began between 0600-0700 hrs MST Wednesday, Dec 26 (DOY 361)
Storm precipitation ended: 1200 hrs MST, Friday Dec 28 (DOY 363)
Storm duration = 54 hrs
Storm total water content at SASP = 13mm (0.5 inches) all as snow
Mean Precip Intensity: 0.2 mm/hr (<.01 inches/hour)
Max 1 Hour Precip Intensity = 1 mm/hour
Max gain in snow depth at SASP during storm = 5 cm (2 inches) of snow
Max gain in snow depth at SBSP during storm = 4 cm (1.6 inches) of snow
Wind behavior at PTSP:

CSAS Putney Study Plot 12,323 ft.
No. of hours: 54
No. of missing hours: 0
From hour ending: Dec 26, 2012 0700 MST
To: Dec 28, 2012 1200 MST
Avg. wind dir: 249
Avg. wind spd: 13.6 mph
Peak gust: 49.1 mph

Average Hourly Wind Speed (mph)

>45 22-45 11-22 6-11 0-6 calm
Winter 2012-2013 Storm #7: December 24, 2012
Storm precip began between 2400-0100 hrs MST Monday, Dec 24 (DOY 359)
Storm precipitation ended: 0700 hrs MST, Tuesday Dec 25 (DOY 360)
Storm duration = 31 hrs
Storm total water content at SASP = 12mm (0.5 inches) all as snow
Mean Precip Intensity: 0.4 mm/hr (.01 inches/hour)
Max 1 Hour Precip Intensity = 1 mm/hour
Max gain in snow depth at SASP during storm = 19 cm (7.5 inches) of snow
Max gain in snow depth at SBSP during storm = 11 cm (4.3 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #6: December 18-19, 2012
Storm precip began between 2200-2300 hrs MST Tuesday, Dec 18 (DOY 353)
Storm precipitation ended: 1900 hrs MST, Wednesday Dec 19 (DOY 354)
Storm duration = 21 hrs
Storm total water content at SASP = 15mm (0.6 inches) all as snow
Mean Precip Intensity: 0.7 mm/hr (.03 inches/hour)
Max 1 Hour Precip Intensity = 3 mm/hour between 0200-0300 on Dec 19
Max gain in snow depth at SASP during storm = 15 cm (5.9 inches) of snow
Max gain in snow depth at SBSP during storm = 5 cm (2 inches) of snow
Wind behavior at PTSP:
Winter 2012-2013 Storm #5: December 15-17, 2012

Storm precip began between 0500-0600 hrs MST Saturday, Dec 15 (DOY 350)
Storm precipitation ended: 0900 hrs MST, Monday Dec 17 (DOY 352)
Storm duration = 52 hrs
Storm total water content at SASP = 13mm (0.5 inches) all as snow
Mean Precip Intensity: 0.25 mm/hr (.01 inches/hour)
Max 1 Hour Precip Intensity = 1 mm/hour
Max gain in snow depth at SASP during storm = 4cm (1.6 inches) of snow
Max gain in snow depth at SBSP during storm = 7cm (2.8 inches) of snow

Wind behavior at PTSP:

---

![Wind diagram](image-url)
**Winter 2012-2013 Storm #4: December 14, 2012**

Storm precip began between 0600-0700 hrs MST Friday, Dec 14 (DOY 349)

Storm precipitation ended: 2300 hrs MST, Dec 14 (DOY 349)

Storm duration = 17 hrs

Storm total water content at SASP = 14mm (0.55 inches) all as snow

Mean Precip Intensity: 0.82 mm/hr (.02 inch/hour)

Max 1 Hour Precip Intensity = 2 mm/hour during hours ending at 0800 and 1000

Max gain in snow depth at SASP during storm = 20cm (7.9 inches) of snow

Max gain in snow depth at SBSP during storm = 17cm (6.7 inches) of snow

Wind behavior at PTSP:

[Wind behavior chart image]

**CSAS Putney Study Plot 12,323 ft.**

No. of hours: 17

No. of missing hours: 0

From hour ending: Dec 14, 2012 0700 MST

To: Dec 14, 2012 2300 MST

Avg. wind dir: 208

Avg. wind spd: 15.5 mph

Peak gust: 46.4 mph
Winter 2012-2013 Storm #3: December 10-11, 2012
Storm precip began: 1000 hrs MST Monday, Dec 10 (DOY 345)
Storm precipitation ended: 0700 hrs MST, Dec 11 (DOY 346)
Storm duration = 21 hrs
Storm total water content at SASP = 14mm (0.55 inches) all as snow
Mean Precip Intensity: 0.67 mm/hr (.02 inch/hour)
Max 1 Hour Precip Intensity = 1 mm/hour
Max gain in snow depth at SASP during storm = 14cm (5.5 inches) of snow
Max gain in snow depth at SBSP during storm = 4cm (1.6 inches) of snow
Wind behavior at PTSP:

CSAS Putney Study Plot 12,323 ft.
No. of hours: 21
No. of missing hours: 0
From hour ending: Dec 10, 2012 1100 MST
To: Dec 11, 2012 0700 MST
Avg. wind dir: 324
Avg. wind spd: 24.2 mph
Peak gust: 56.2 mph

Average Hourly Wind Speed(mph)

>45  72-45  11-22  6-11  0-6  calm
Winter 2012-2013 Storm #2: December 9, 2012
Storm precip began: 0300 hrs MST Sunday, Dec 9 (DOY 344)
Storm precipitation ended: 1600 hrs MST
Storm duration = 13 hrs
Storm total water content at SASP = 12mm (0.47 inches) all as snow
Mean Precip Intensity: 0.86 mm/hr (.03 inch/hour)
Max 1 Hour Precip Intensity = 3 mm/hour between 0700 - 0800 hrs
Max gain in snow depth at SASP during storm = 12cm (4.7 inches) of snow
Max gain in snow depth at SBSP during storm = 5cm (2 inches) of snow
Wind behavior at PTSP: NNW Winds gusted to 45mph, much lower wind speeds than experienced during our 1st winter storm last month.
Winter 2012-2013 Storm #1: November 9-10, 2012
Storm precip began: 0200 hrs MST Friday, Nov 9 (DOY 314)
Storm precipitation ended: 1300 hrs MST, Saturday, Nov 10 (DOY 315)
Storm duration = 35 hrs
Storm total water content at SASP = 45mm (1.77 inches) all as snow
Mean Precip Intensity: 1.29 mm/hr (.05 inch/hour)
Max 1 Hour Precip Intensity = 3 mm/hour between 0200 - 0400 hrs on DOY 315 (Nov 10, 2012)
Max gain in snow depth at SASP during storm = 40cm (16 inches) of snow
Max gain in snow depth at SBSP during storm = 31cm (12 inches) of snow
Wind behavior at PTSP: SW'ly winds were fairly ferocious throughout this storm, averaging 30 mph and gusting to 82 mph, leaving a lot of terrain wind stripped back down to bare ground.