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## WINTER 2011-2012 STORM REPORTS:

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### **Winter 2011-2012 Storm #23: April 26-27, 2012**

Storm precip began: 1500 hrs MST April 26 (DOY 117)

Storm precip ended: 1000 hrs MST April 27 (DOY 118)

Storm Duration = 19 hrs

Storm total HNW at SASP = 13 mm (0.51 in)

Mean Precip Intensity = 0.68 mm/hr

Max 1 Hour Precip Intensity = 4 mm/hour between 1700 - 1800 hrs

Max gain in HS at SASP during storm = 9 cm (3.5 in)

Max gain in HS at SBSP during storm = 21 cm (8.3 in)

Peak gust at PTSP during storm: 23.7 ms (53 mph) @ 0511 hrs; [wind rose for storm](#)

### **Winter Storm #22: April 19-20, 2012**

Storm precip began: 0500 hrs MST April 19 (DOY 110)

Storm precip ended: 0200 hrs MST April 20 (DOY 111)

Storm Duration = 21 hrs

Storm total HNW at SASP = 19 mm (0.75 in)

Mean Precip Intensity = 0.9 mm/hr

Max 1 Hour Precip Intensity = 3 mm/hour between 0600 - 0700

Max gain in HS at SASP during storm = 13 cm (5.1 in)

Max gain in HS at SBSP during storm = 12 cm (4.7 in)

Peak gust at PTSP during storm: 16.1 ms (36.1 mph) @ 1719 hrs on April 19; [wind rose for storm](#)

### **Winter Storm #21: April 13-16, 2012**

Storm precip began: 1600 hrs MST April 13 (DOY 104)

Storm precip ended: 0700 hrs MST April 16 (DOY 107)

Storm Duration = 63 hrs

Storm total HNW at SASP = 31 mm (1.2 in)

Mean Precip Intensity = 0.5 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour

Max gain in HS at SASP during storm = 31 cm (12.2 in)

Max gain in HS at SBSP during storm = 39 cm (15.35 in)

Peak gust at PTSP during storm: 22.8 ms (50.9 mph) @ 0818 hrs on April 14; [wind rose for storm](#)

**Winter Storm #20: March 17-20, 2012**

Storm precip began: 2000 hrs MST March 17 (DOY 77)  
Storm precip ended: 0500 hrs MST March 20 (DOY 80)  
Storm Duration = 57 hrs  
Storm total HNW at SASP = 39 mm (1.5 in)  
Mean Precip Intensity = 0.68 mm/hr  
Max 1 Hour Precip Intensity = 3 mm/hour at 1300, 1600 and 1700 on March 18th.  
Max gain in HS at SASP during storm = 35 cm (13.8 in)  
Max gain in HS at SBSP during storm = 36 cm (14 in)  
Peak gust at PTSP during storm: 41 ms (91.7 mph) @1240 hrs; [wind rose for storm](#)

**Winter Storm #19: March 1-2, 2012**

Storm precip began: 1000 hrs MST March 1 (DOY 61)  
Storm precip ended: 1900 hrs MST March 2 (DOY 62)  
Storm Duration = 33 hrs  
Storm total HNW at SASP = 19 mm (0.75 in)  
Mean Precip Intensity = 0.58 mm/hr  
Max 1 Hour Precip Intensity = 2 mm/hour  
Max gain in HS at SASP during storm = 11 cm (4.3 in)  
Max gain in HS at SBSP during storm = 3 cm (1.2 in)  
Peak gust at PTSP during storm: 26.5 ms (59.3 mph) @1410 hrs; [wind rose for storm](#)

**Winter Storm #18: February 27-28, 2012**

Storm precip began: 1800 hrs MST Feb 19 (DOY 58)  
Storm precip ended: 1300 hrs MST Feb 20 (DOY 59)  
Storm Duration = 19 hrs  
Storm total HNW at SASP = 32 mm (1.26 in)  
Mean Precip Intensity = 1.68 mm/hr  
Max 1 Hour Precip Intensity = 4 mm/hour  
Max gain in HS at SASP during storm = 38 cm (15 in)  
Max gain in HS at SBSP during storm = 26 cm (10.2 in)  
Peak gust at PTSP during storm: 35.6 ms (79.6 mph) @ 0120 hrs; [wind rose for storm](#)

**Winter Storm #17: February 19-20, 2012**

Storm precip began: 1300 hrs MST Feb 19 (DOY 50)

Storm precip ended: 1500 hrs MST Feb 20 (DOY 51)

Storm Duration = 26 hrs

Storm total HNW at SASP = 17 mm (0.67 in)

Mean Precip Intensity = 0.65 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour @ 2100 hrs on Feb 19

Max gain in HS at SASP during storm = 12 cm (4.7 in)

Max gain in HS at SBSP during storm = 8 cm (3.15 in)

Peak gust at PTSP during storm: 21.5 ms (48.1 mph) @ 1842 hrs; [wind rose for storm](#)

**Winter Storm #16: February 12, 2012**

Storm precip began: 0300 hrs MST Feb 12 (DOY 43)

Storm precip ended: 1100 hrs MST Feb 13 (DOY 44)

Storm Duration = 32hrs

Storm total HNW at SASP = 30mm (1.2 in)

Mean Precip Intensity = 0.94 mm/hr

Max 1 Hour Precip Intensity = 3 mm/hour between 0600 and 0700 on Feb 12

Max gain in HS at SASP during storm = 37 cm (14.6 in)

Max gain in HS at SBSP during storm = 34 cm (13.4 in)

Peak gust at PTSP during storm: 18.6 ms (41.6 mph) @ 2341hrs; [wind rose for storm](#)

**Winter Storm #15: February 8-9, 2012**

Storm precip began: 1400 hrs MST Feb 5

Storm precip ended: 1900 hrs MST Feb 6

Storm Duration = 29hrs

Storm total HNW at SASP = 18mm (0.7 in)

Mean Precip Intensity = 0.62 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour

Max gain in HS at SASP during storm = 29 cm (11.4 in)

Max gain in HS at SBSP during storm = 22 cm (8.7 in)

Peak gust at PTSP during storm: 22.3 ms (49.9 mph) @ 1819hrs during the last hour of precip;  
[wind rose for storm](#)

**Winter Storm #14: February 5-6, 2012**

Storm precip began: 1900 hrs MST Feb 5

Storm precip ended: 1900 hrs MST Feb 6

Storm Duration = 24hrs

Storm total HNW at SASP = 14mm (0.55 in)

Mean Precip Intensity = 0.58 mm/hr

Max 1 Hour Precip Intensity = 3 mm/hour @ 1500 on Feb 6

Max gain in HS at SASP during storm = 17 cm (6.7 in)

Max gain in HS at SBSP during storm = 17 cm (6.7 in)

Peak gust at PTSP during storm: 11.8 ms (26.4 mph) @ 2049hrs; [wind rose for storm](#)

**Winter Storm #13: January 26 - 27, 2012**

Storm precip began: 2000 hrs MST Jan 26

Storm precip ended: 1000 hrs MST Jan 27

Storm Duration = 14hrs

Storm total HNW at SASP = 18mm (0.7 in)

Mean Precip Intensity = 1.29 mm/hr

Max 1 Hour Precip Intensity = 4 mm/hour @ 0300 and 0400 on Jan 27

Max gain in HS at SASP during storm = 20 cm (7.9 in)

Max gain in HS at SBSP during storm = 19 cm (7.5 in)

Peak gust at PTSP during storm: 24.7 ms (55 mph) @ 0200 hrs; [wind rose for storm](#)

**Winter Storm #12: January 21-22, 2012**

Storm precip began: 1100 hrs MST Jan 21

Storm precip ended: 1400 hrs MST Jan 22

Storm Duration = 27hrs

Storm total HNW at SASP = 44mm (1.7 in)

Mean Precip Intensity = 1.63 mm/hr

Max 1 Hour Precip Intensity = 4 mm/hour

Max gain in HS at SASP during storm = 54 cm (21 in)

Max gain in HS at SBSP during storm = 25 cm (10 in)

Peak gust at PTSP during storm: 28.1 ms (63 mph); [wind rose for storm](#)

**Winter Storm #11: January 15-16, 2012**

Storm precip began: 2100 hrs MST Jan 15  
Storm precip ended: 2300 hrs MST Jan 16  
Storm Duration = 26 hrs  
Storm total HNW at SASP = 18mm (0.7 in)  
Mean Precip Intensity = 0.69 mm/hr  
Max 1 Hour Precip Intensity = 2 mm/hour  
Max gain in HS at SASP during storm = 30 cm (12 in)  
Max gain in HS at SBSP during storm = 11 cm (4 in)  
Peak gust at PTSP during storm: 29.1 ms (65 mph); [wind rose for storm](#)

**Winter Storm #10: December 12-14, 2011**

Storm precip began: 1700 hrs MST Monday, Dec 12 (DOY 346)  
Storm precip ended: 1700 hrs MST Wednesday, Dec 14 (DOY 348)  
Storm Duration = 48 hrs  
Storm total HNW at SASP = 36mm (1.4 in)  
Mean Precip Intensity = 0.75 mm/hr  
Max 1 Hour Precip Intensity = 2 mm/hour  
Max gain in HS at SASP during storm = 46 cm (18.1 in)  
Max gain in HS at SBSP during storm = 48 cm (18.9 in)  
Peak gust at PTSP during storm: 67.3 ms (150.5 mph) on Dec 12 (DOY 346) at 2313 hrs; [wind rose for storm](#)

**Winter Storm #9: December 2-5, 2011**

Storm precip began: 1500 hrs MST Friday, Dec 2 (DOY 336)  
Storm precip ended: 0300 hrs MST Monday, Dec 5 (DOY 339)  
Storm Duration = 60 hrs  
Storm total HNW at SASP = 19mm (.75 in)  
Mean Precip Intensity = 0.32 mm/hr  
Max 1 Hour Precip Intensity = 3 mm/hour 1600-1700 on Dec 3 (DOY 337)  
Max gain in HS at SASP during storm = 18 cm (7.1 in)  
Max gain in HS at SBSP during storm = 17 cm (6.7 in)  
Peak gust at PTSP during storm: 12.8 ms (28.5 mph) on Dec 4 (DOY 338) at 2356 hrs; [wind rose for storm](#)

**Winter Storm #8: Nov 24-25, 2011**

Our primary Swamp Angel datalogger malfunctioned early Thanksgiving morning. As a result, the following storm data is estimated from the Red Mountain Snotel, our SASP height of snow measurements, RH measurements at SASP, and a storm board at SASP.

Storm precip began: ~1800 hrs MST Thanksgiving Thursday, Nov 24 (DOY 328)

Storm precip ended approximately: 1600 hrs MST Friday, Nov 25 (DOY 329)

Storm Duration = ~29 hrs

Storm total HNW at SASP = ~13mm (.5 in)

Mean Precip Intensity = ~0.45 mm/hr

Max 1 Hour Precip Intensity = ~1 mm/hour

Max gain in HS at SASP during storm = 8.7 cm (3.4 in)

Max gain in HS at SBSP during storm = 3 cm (1.2 in)

[Wind rose for storm](#)

**Winter Storm #7: Nov 20-22, 2011**

An errant pine needle made it through filters on our precip gauge and caused slushing and delayed precip measurements during this storm. The good news is that the gauge reported the correct total for the storm, though the hours might be skewed later. We are calling the end of this storm 0600 this morning (Tues Nov 22, DOY 326), based on height of snow data.

Storm precip began: 1900 hrs MST Sunday, Nov 20 (DOY 324)

Storm precip ended approximately: 0600 hrs MST Tuesday, Nov 22 (DOY 326)

Storm Duration = 35 hrs (approx)

Storm total HNW at SASP = 16mm (0.6 in)

Mean Precip Intensity = 0.46 mm/hr

Max 1 Hour Precip Intensity = 1 mm/hour

Max gain in HS at SASP during storm = 19 cm (7.5 in)

Max gain in HS at SBSP during storm = 11 cm (4.3 in)

Wind Behavior at PTSP: Average winds measured 5.5m/s (12 mph), and only barely exceeded an hourly average of 8m/s during 3 separate hours early in the storm. The peak gust measuring 31.6m/s (71mph) came at 0138 on Monday Nov 21 (DOY325). Winds came from the south early in the storm until 0900 on Monday when they swung to the SW. At 1400 Monday, winds turned to the NW. [Wind rose for storm](#)

**Winter Storm #6: Nov 13, 2011**

We got a 12 hour storm producing exactly 12mm of water with a 12cm increase in height of snow (but it occurred on the 13th, not the 12th).

Storm precip began: 1000 hrs MST Sunday, Nov 13 (DOY 317)

Storm precip ended: 2200 hrs MST Sunday, Nov 13 (DOY 317)

Storm Duration = 12 hrs

Storm total HNW at SASP = 212mm (.47 in)

Mean Precip Intensity = 1 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour at 1400

Max gain in HS at SASP during storm = 12 cm (4.7 in)

Max gain in HS at SBSP during storm = 4 cm (1.57 in)

Wind Behavior at PTSP: Winds came from the WSW for the first 7 hours, turning slightly to the WNW at 1700.

Wind speeds averaged 12.6m/s (28 mph) for the duration of the storm, with a peak gust of 26.5m/s (59 mph) at 1012 Sunday Nov 13th. [Wind rose for storm](#)

**Winter Storm #5: Nov 4-6, 2011**

This storm got off to a slow start, with several hours (1700-2300) in between the first few small batches of precip. However, we experienced very high precip intensities early Saturday morning, November 5th (DOY 309).

Storm precip began: 1300 hrs MST Friday, Nov 4 (DOY 308)

Storm precip ended: 0900 hrs MST Saturday, Nov 6 (DOY 309)

Storm Duration = 20 hrs

Storm total HNW at SASP = 26mm (1 in)

Mean Precip Intensity = 1.3 mm/hr

Max 1 Hour Precip Intensity = 6 mm/hour at 0600 Sat Nov 5 (DOY 309)

Max gain in HS at SASP during storm = 44 cm (17.3 in)

Max gain in HS at SBSP during storm = 33 cm (13 in)

Wind Behavior at PTSP: Winds came steadily from the South (mean 176°, std dev'n 13°), and exceeded 8m/s throughout the storm, gusting as high as 34.1 m/s (76 mph) at 1:34 MST Saturday. [Wind rose for storm](#)

**Winter Storm #4: Nov 1-2, 2011**

We currently have about 23cm (9") of snow on the ground at both our subalpine (SASP) and alpine (SBSP) sites. The skies mostly cleared over Silverton around 10am Wednesday (Nov 2, DOY 306), though a bit more precip occurred at our study plots afterwards.

Storm precip began: 2000 hrs MST Tuesday, Nov 1 (DOY 305)

Storm precip ended: 1600 hrs MST Wednesday, Nov 2 (DOY 306)

Storm Duration = 20 hrs

Storm total HNW at SASP = 14 mm (.55 in)

Mean Precip Intensity = 0.7 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour

Max gain in HS at SASP during storm = 16 cm (6.3 in)

Max gain in HS at SBSP during storm = 18 cm (7 in)

Wind behavior at PTSP: Mean speeds exceeded 8m/s only between 0400 and 0900 MST Wednesday morning Nov 2nd [DOY 306], averaging 10.6 m/s (23.7 mph) during that time. The storm's peak gust of 16.1m/s (36mph) occurred at 0610. During the first few hours of the storm, winds came from the WWS, but turned to the N around 0200 MST Wednesday. Wind speeds decreased and swung back to the SW during the last few hours of the storm.

[Wind rose for storm](#)

**Winter Storm #3: Oct 25-26, 2011**

The sun has come out in Silverton after our 3rd winter storm this season. As it happened, snow cover from storms #1 and #2 persisted through nearly 2 weeks of sunny fall days.

Storm precip began: 0600 hrs MST Tuesday, Oct 25 (DOY 298)

Storm precip ended: 1500 hrs MST Wednesday, October 26 (DOY 299)

Storm Duration = 33 hrs

Storm total HNW at SASP = 27 mm

Mean Precip Intensity = 0.8 mm/hr

Max 1 Hour Precip Intensity = 2 mm/hour

Max gain in HS at SASP during storm = 22 cm (8.66 in)

Max gain in HS at SBSP during storm = 18 cm

Wind behavior at PTSP: Winds during this storm came from the SW and swung to the North only as precip ended. Mean speeds exceeded 8m/s during only 3 scattered hours. The storm's peak gust of 19.2m/s (43mph) occurred at 0344 MST early Wednesday, Oct 26th. [Wind rose for storm](#)



**Winter Storm #2: Oct 5-6, 2011**

Storm precip began: 1600 hrs MST Wednesday, Oct 5 (DOY 278)

Storm precip ended: 1400 hrs MST Thursday, October 6

Storm Duration = 22 hrs

Storm total HNW at SASP = 50 mm

Mean Precip Intensity = 2.3 mm/hr

Max 1 Hour Precip Intensity = 6 mm/hour at 1000 MST Thursday

Max gain in HS at SASP during storm = 39 cm (15.3 in)

Max gain in HS at SBSP during storm = 31.4 cm (12.4 in)

Wind behavior at PTSP: This was a windy storm with average winds of 15m/s (33mph) out of the South (avg 194deg) during the storm. The max wind gust of a whopping 38.1m/s (85.2mph) occurred at 0755 on Thurs Oct 6th. Silverton (and Ouray/Telluride?) experienced a ~4hr power outage shortly afterwards. [Wind rose for storm](#)

**Winter Storm #1: Oct 4-5, 2011**

\*\* This storm was a mix of rain and snow below treeline

Storm precip began: 0700 hrs MST Tuesday, Oct 4 (DOY 277)

Storm precip ended: 0100 hrs MST Wednesday, October 5

Storm Duration = 18 hrs

Storm total HNW at SASP = 17 mm

Mean Precip Intensity = 0.94 mm/hr

Max 1 Hour Precip Intensity = 5 mm/hour at 1200 MST Tuesday

Max gain in HS at SASP during storm = 1.6 cm (.63 in)

Max gain in HS at SBSP during storm = 10.3 cm (4 in)

Wind behavior at PTSP: The average winds were only 4.15m/s (9.3mph), and generally came out of the SE (avg 170deg). The max wind gust occurred early Wednesday a.m. during the last hour of the storm 9.7m/s (21.7mph).

[Wind rose for storm](#)

**Winter 11/12 Pre-Season Storm.** We received snow Sept 15-17, but it was gone by Sept 20th. The storm brought 38mm of water, resulting in a max height of snow of 15cm (6in) at SBSP and 8cm (3in) at SASP.