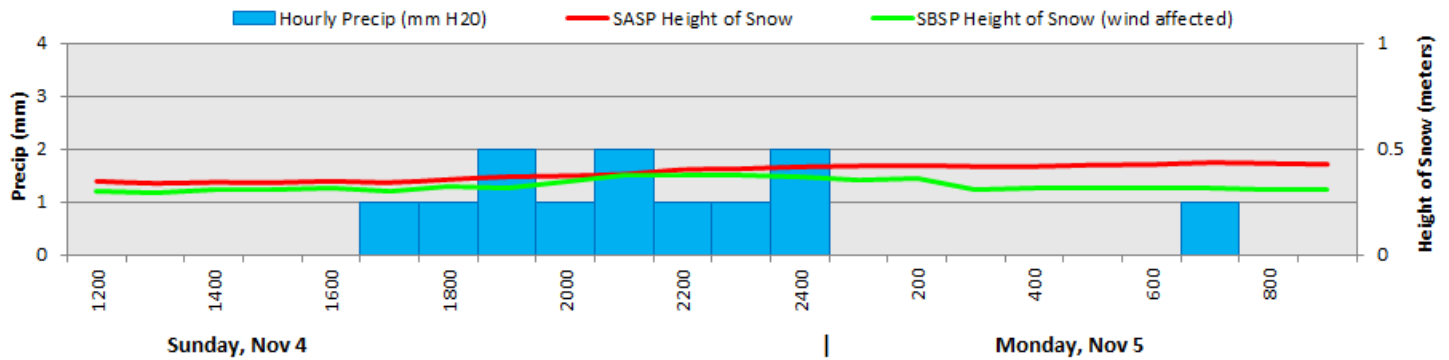


# 2018/2019 WINTER STORM #1

2018-19 Winter Storm #1: Nov 4-5, 2018

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1600 – 1700 hrs MST Sunday, November 4, 2018 (DOY 308)

Storm precipitation ended: 0700 hrs MST Monday, November 5, 2018 (DOY 309)

Storm duration = 16 hrs

Storm total water content at SASP = 12 mm (0.5 inches)

Mean precip intensity: 0.75 mm/hr

Max precip intensity: 2 mm/hour on multiple occasions

Max gain in snow depth at SASP = 8.8 cm (3.5 inches)

Max gain in snow depth at SBSP (wind affected) = 0 cm (0 inches)

Peak gust at PTSP at: 0420 hrs MST Monday, November 5, 2018 (DOY 309)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 16

No. of missing hours: 0

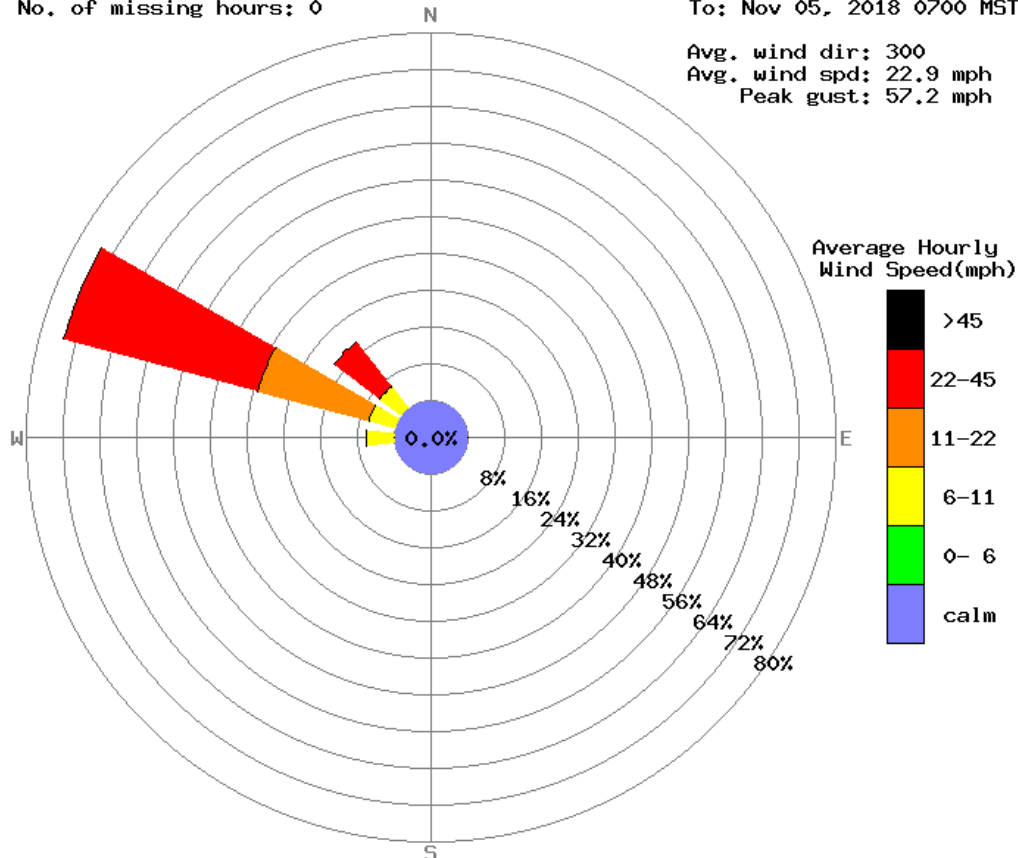
From hour ending: Nov 04, 2018 1600 MST

To: Nov 05, 2018 0700 MST

Avg. wind dir: 300

Avg. wind spd: 22.9 mph

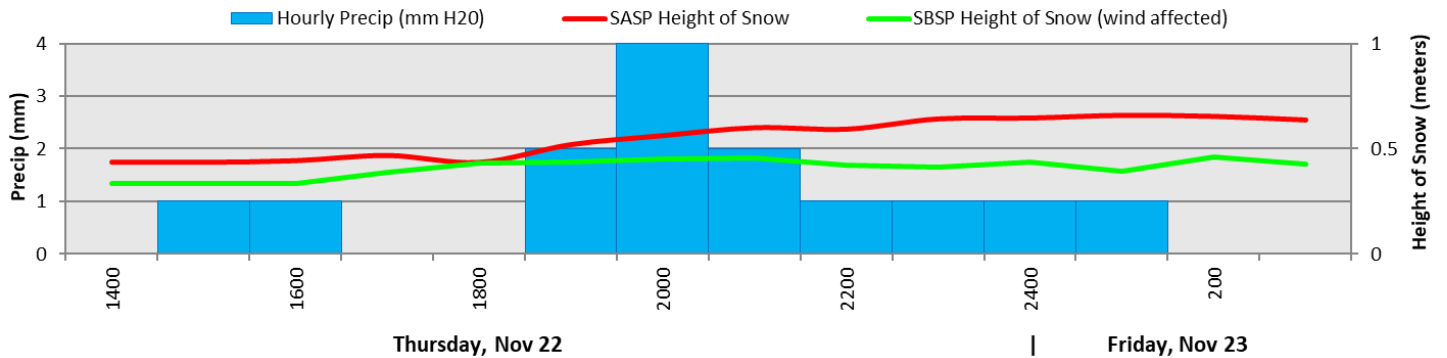
Peak gust: 57.2 mph



# 2018/2019 WINTER STORM #2

2018-19 Winter Storm #2: Nov 22-23, 2018

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1400 – 1500 hrs MST Thursday, November 22, 2018 (DOY 326)

Storm precipitation ended: 0100 hrs MST Friday, November 23, 2018 (DOY 327)

Storm duration = 12 hrs

Storm total water content at SASP = 14 mm (0.6 inches)

Mean precip intensity: 1.17 mm/hr

Max precip intensity: 4 mm/hour on DOY 326 at 2000

Max gain in snow depth at SASP = 22.4 cm (8.8 inches)

Max gain in snow depth at SBSP (wind affected) = 5.7 cm (2.2 inches)

Peak gust at PTSP at: 2400 hrs MST Thursday, November 22, 2018 (DOY 326)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 12

No. of missing hours: 0

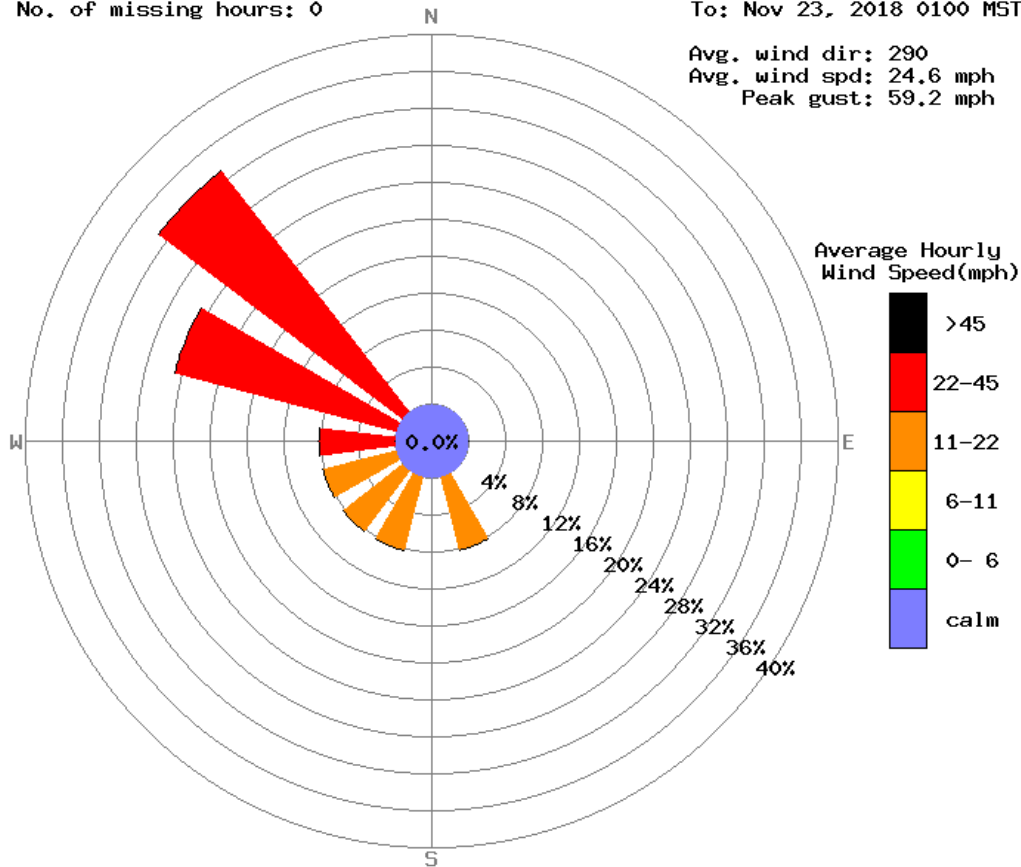
From hour ending: Nov 22, 2018 1400 MST

To: Nov 23, 2018 0100 MST

Avg. wind dir: 290

Avg. wind spd: 24.6 mph

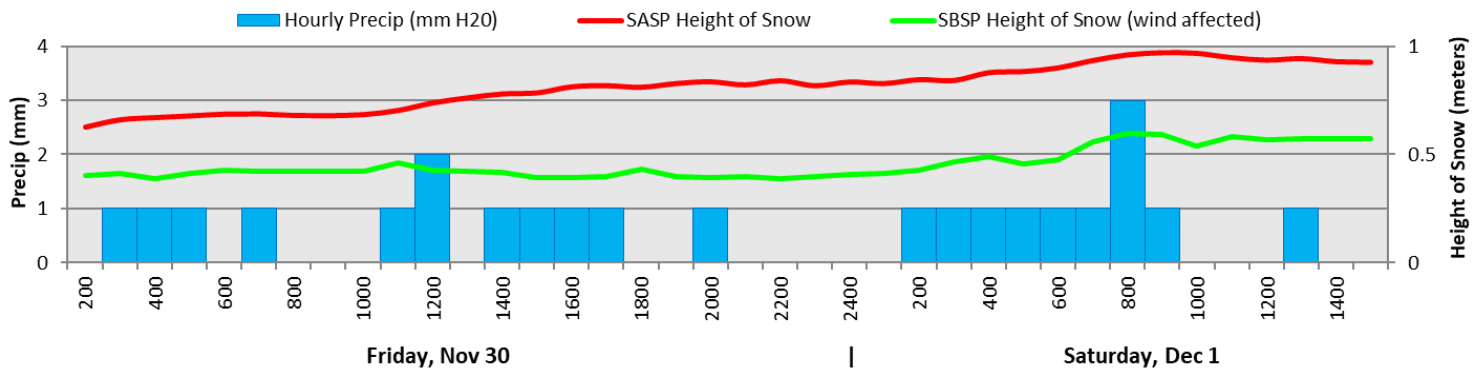
Peak gust: 59.2 mph



# 2018/2019 WINTER STORM #3

2018-19 Winter Storm #3: Nov 30-Dec 1, 2018

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

**Storm precip began** between 0200 – 0300 hrs MST Friday, November 30, 2018 (DOY 334)

**Storm precipitation ended:** 1300 hrs MST Saturday, December 01, 2018 (DOY 335)

**Storm duration** = 36 hrs

**Storm total water content at SASP** = 23 mm (0.9 inches)

**Mean precip intensity:** 0.4 mm/hr

**Max precip intensity:** 3 mm/hour on DOY 335 at 0800

**Max gain in snow depth at SASP** = 31.6 cm (12.4 inches)

**Max gain in snow depth at SBSP** (wind affected) = 16.9 cm (6.7 inches)

**Peak gust at PTSP at:** 1700 hrs MST Friday, November 30, 2018 (DOY 334)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 36

No. of missing hours: 0

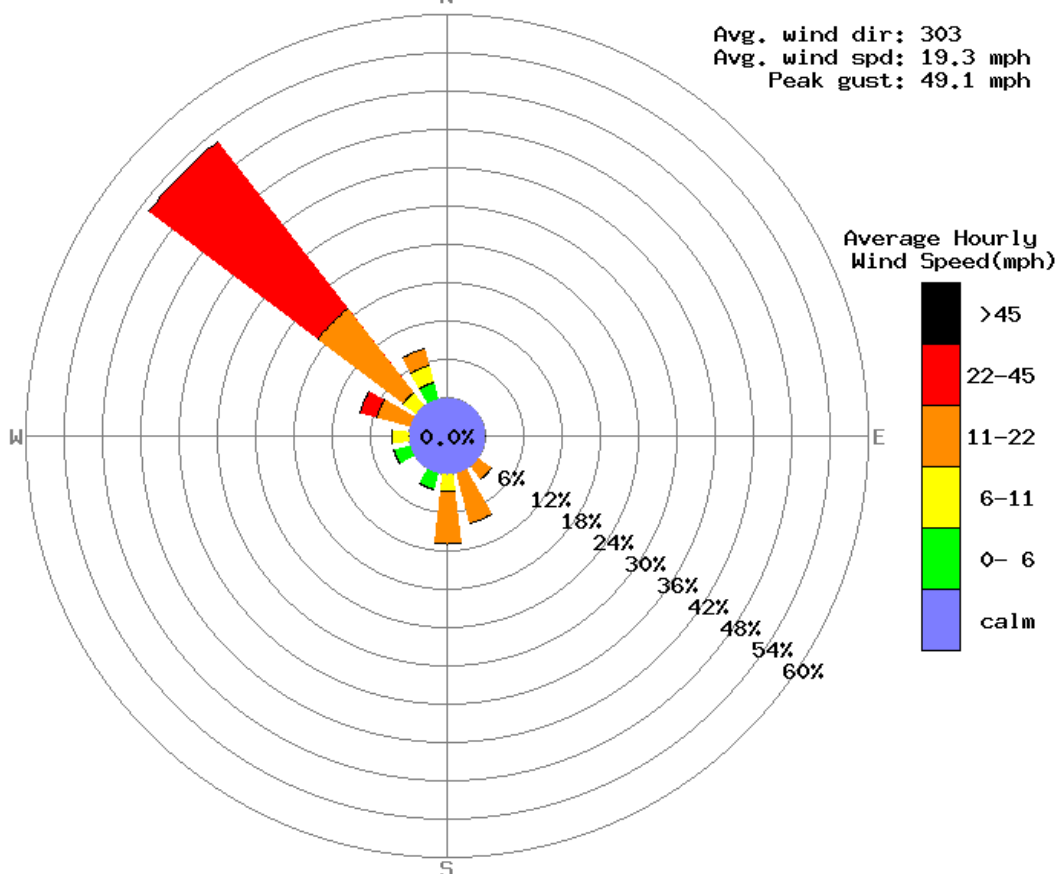
From hour ending: Nov 30, 2018 0200 MST

To: Dec 01, 2018 1300 MST

Avg. wind dir: 303

Avg. wind spd: 19.3 mph

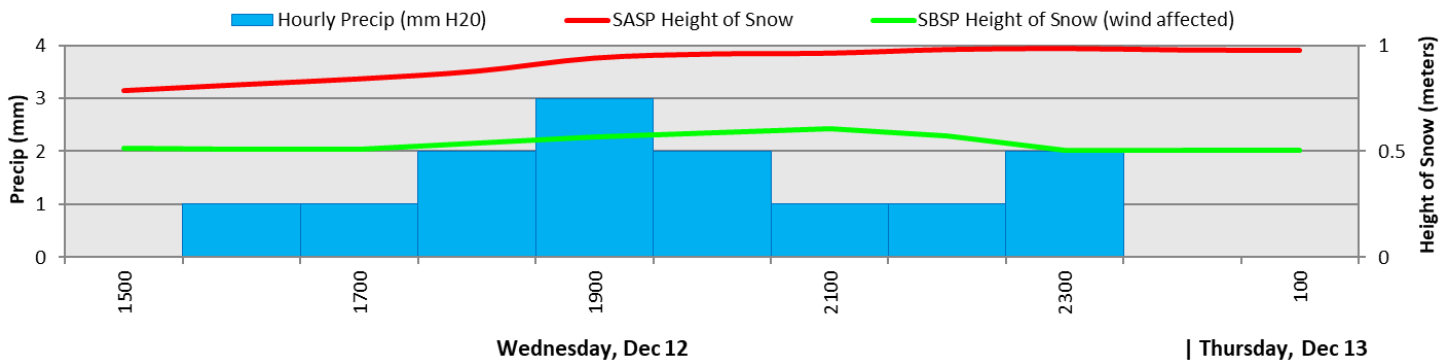
Peak gust: 49.1 mph



# 2018/2019 WINTER STORM #4

2018-19 Winter Storm #4: Dec 12, 2018

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1500 – 1600 hrs MST Wednesday, December 12, 2018 (DOY 346)

Storm precipitation ended: 2300 hrs MST Wednesday, December 12, 2018 (DOY 346)

Storm duration = 9 hrs

Storm total water content at SASP = 13 mm (0.5 inches)

Mean precip intensity: 1.44 mm/hr

Max precip intensity: 3 mm/hour on DOY 346 at 1900

Max gain in snow depth at SASP = 19.7 cm (7.8 inches)

Max gain in snow depth at SBSP (wind affected) = -.6 cm (-.2 inches)

Peak gust at PTSP at: 2300 hrs MST Wednesday, December 12, 2018 (DOY 346)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 9

No. of missing hours: 0

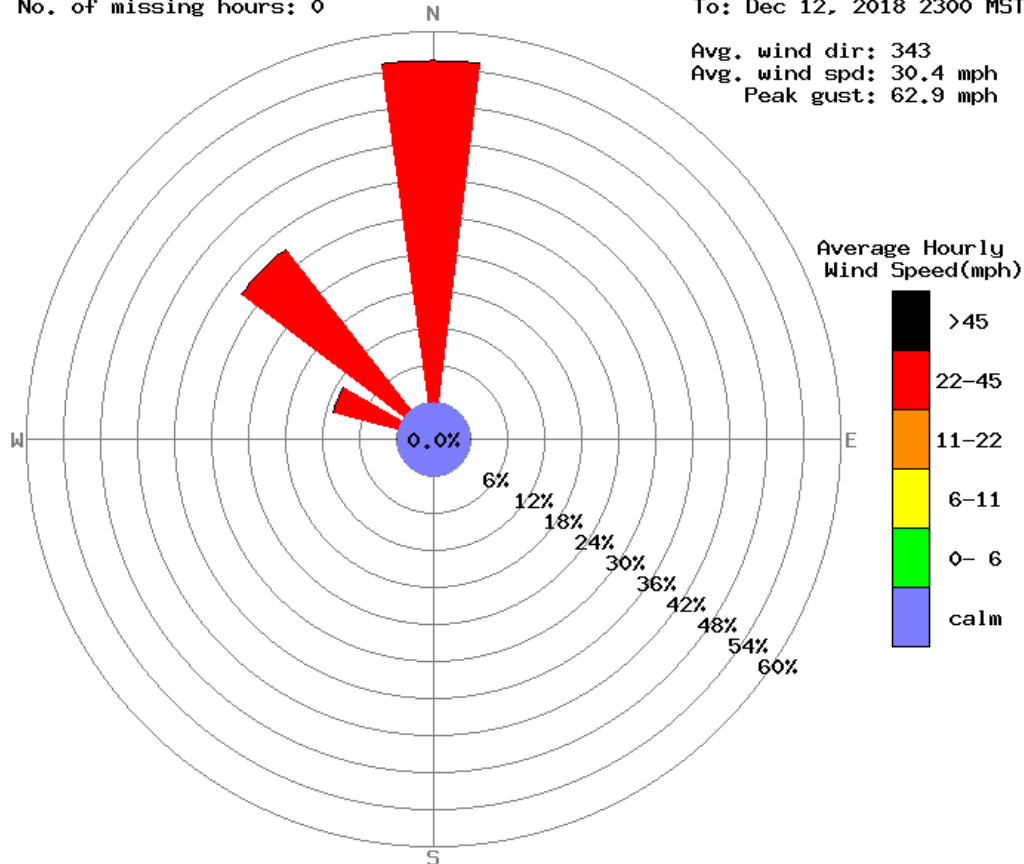
From hour ending: Dec 12, 2018 1500 MST

To: Dec 12, 2018 2300 MST

Avg. wind dir: 343

Avg. wind spd: 30.4 mph

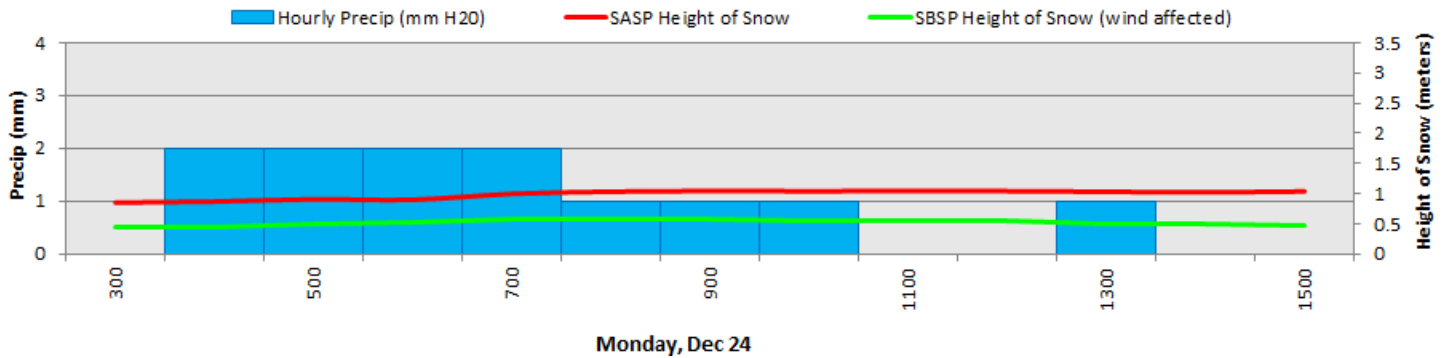
Peak gust: 62.9 mph



# 2018/2019 WINTER STORM #5

2018-19 Winter Storm #5: Dec 24, 2018

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0300 – 0400 hrs MST Monday, December 24, 2018 (DOY 358)

Storm precipitation ended: 1300 hrs MST Monday, December 24, 2018 (DOY 358)

Storm duration = 11 hrs

Storm total water content at SASP = 12 mm (0.5 inches)

Mean precip intensity: 1.09 mm/hr

Max precip intensity: 2 mm/hour on DOY 358 at multiple times.

Max gain in snow depth at SASP = 18.1 cm (7.1 inches)

Max gain in snow depth at SBSP (wind affected) = 7.3 cm (2.9 inches)

Peak gust at PTSP at: 1000 hrs MST Monday, December 24, 2018 (DOY 358)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 11

No. of missing hours: 0

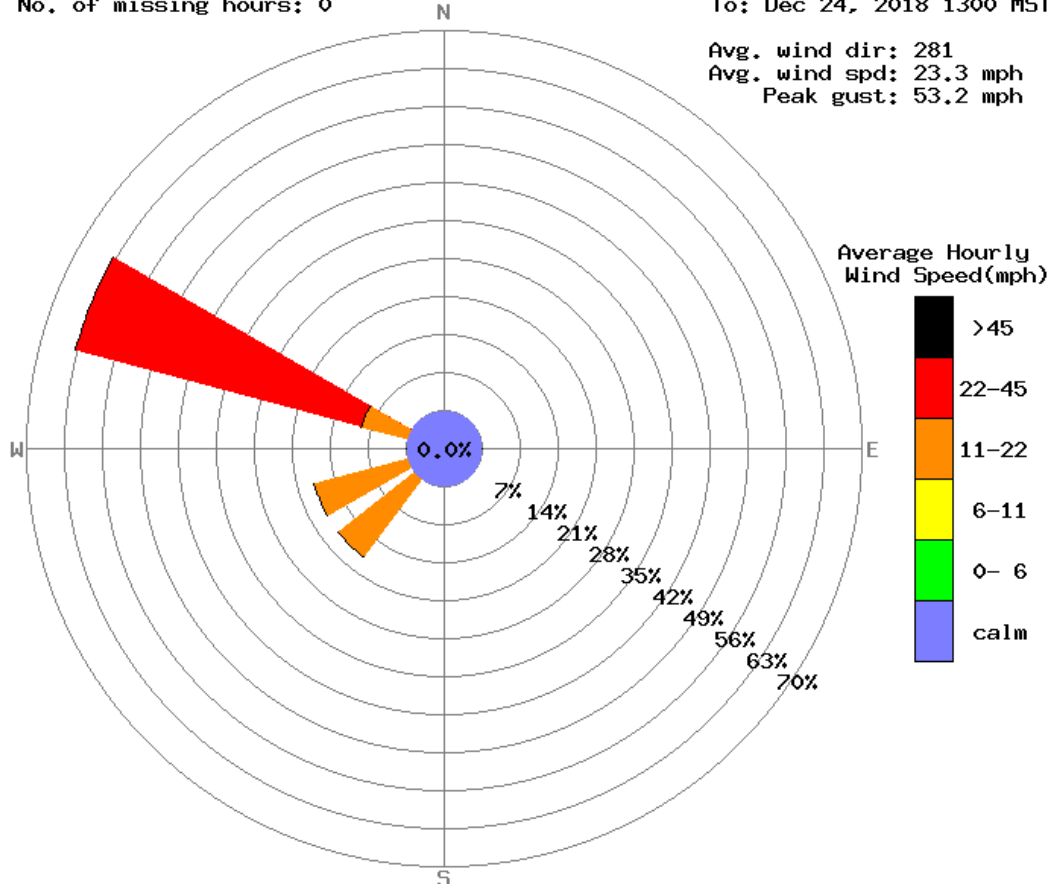
From hour ending: Dec 24, 2018 0300 MST

To: Dec 24, 2018 1300 MST

Avg. wind dir: 281

Avg. wind spd: 23.3 mph

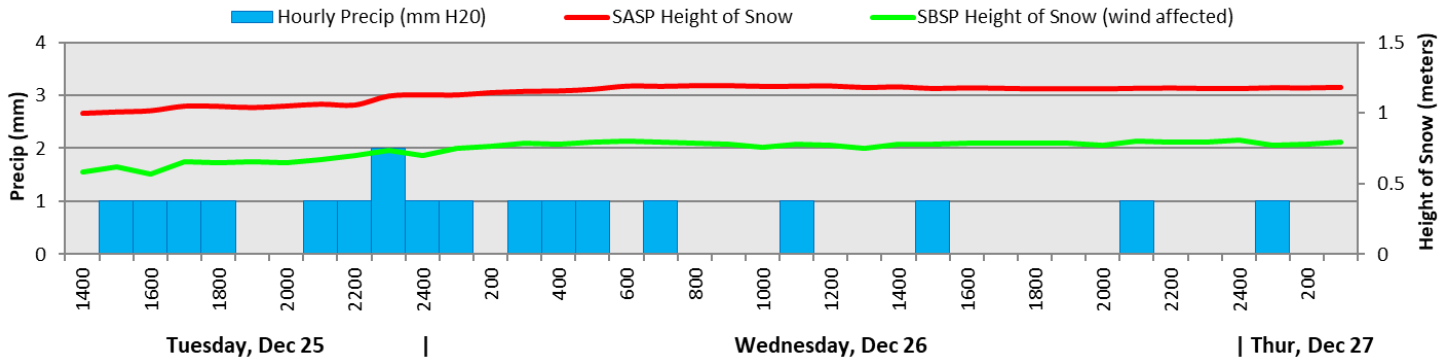
Peak gust: 53.2 mph



# 2018/2019 WINTER STORM #6

2018-19 Winter Storm #6: Dec 25-Dec 27, 2018

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1400 – 1500 hrs MST Tuesday, December 25, 2018 (DOY 359)

Storm precipitation ended: 0100 hrs MST Thursday, December 27, 2018 (DOY 361)

Storm duration = 36 hrs

Storm total water content at SASP = 18 mm (0.7 inches)

Mean precip intensity: 0.50 mm/hr

Max precip intensity: 2 mm/hour on DOY 359 at 2300.

Max gain in snow depth at SASP = 18.4 cm (7.2 inches)

Max gain in snow depth at SBSP (wind affected) = 18.5 cm (7.3 inches)

Peak gust at PTSP at: 0200 hrs MST Wednesday, December 26, 2018 (DOY 360)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 36

No. of missing hours: 0

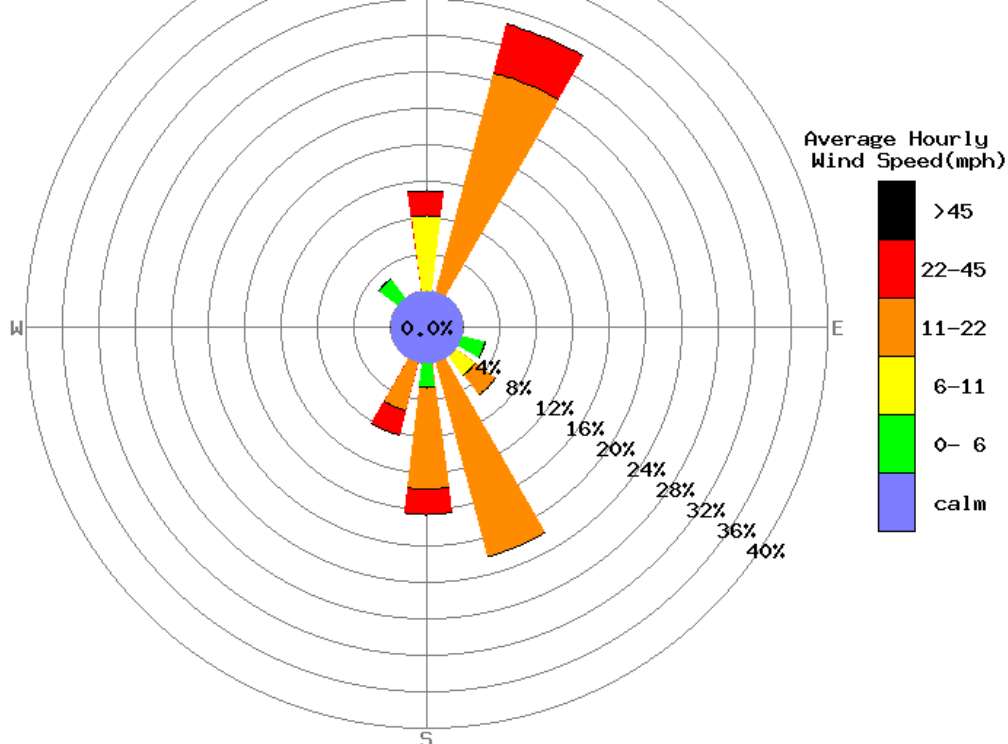
From hour ending: Dec 25, 2018 1400 MST

To: Dec 27, 2018 0100 MST

Avg. wind dir: 112

Avg. wind spd: 16.1 mph

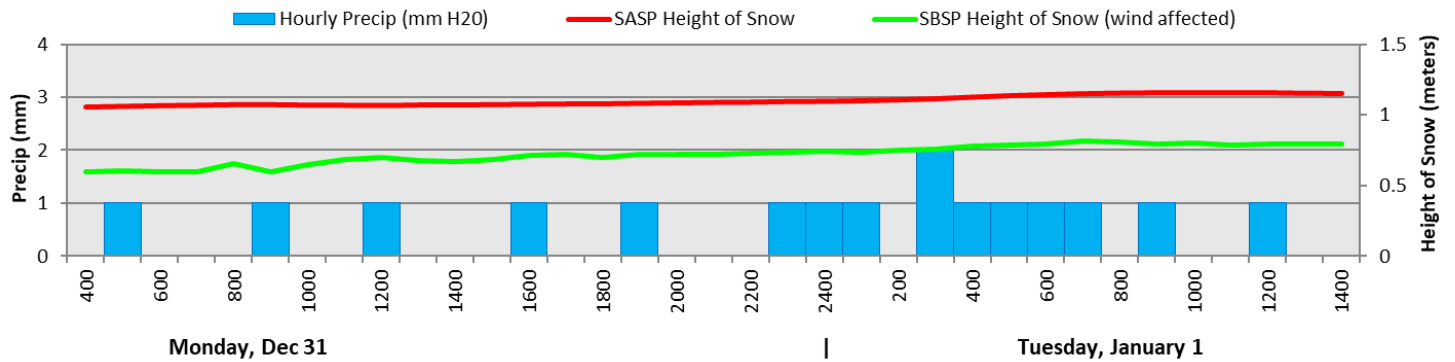
Peak gust: 46.2 mph



# 2018/2019 WINTER STORM #7

2018-19 Winter Storm #7: Dec 31, 2018-Jan 1, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

**Storm precip began** between 0400 – 0500 hrs MST Monday, December 31, 2018 (DOY 365)

**Storm precipitation ended:** 1200 hrs MST Tuesday, January 01, 2019 (DOY 001)

**Storm duration** = 33 hrs

**Storm total water content at SASP** = 16 mm (0.6 inches)

**Mean precip intensity:** 0.48 mm/hr

**Max precip intensity:** 2 mm/hour on DOY 001 at 0300.

**Max gain in snow depth at SASP** = 10.2 cm (4.0 inches)

**Max gain in snow depth at SBSP** (wind affected) = 19.8 cm (7.8 inches)

**Peak gust at PTSP at:** 0900 hrs MST Tuesday, January 01, 2019 (DOY 001)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 33

No. of missing hours: 0

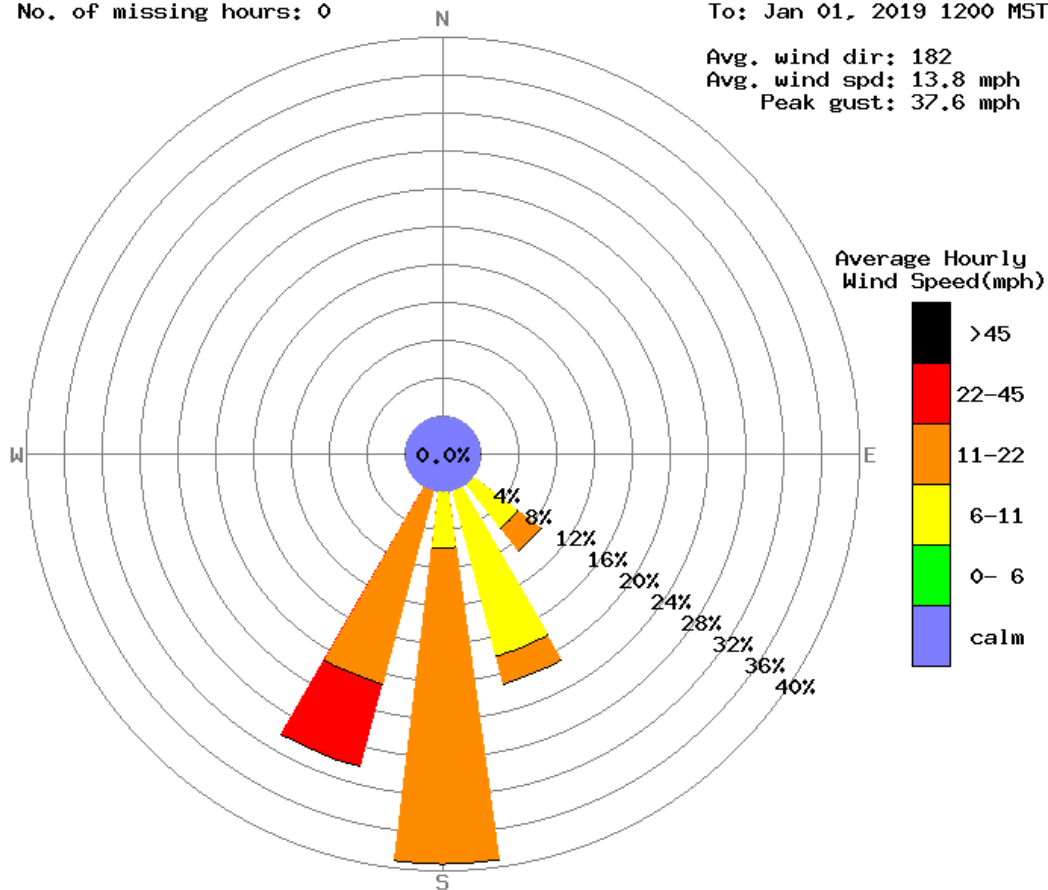
From hour ending: Dec 31, 2018 0400 MST

To: Jan 01, 2019 1200 MST

Avg. wind dir: 182

Avg. wind spd: 13.8 mph

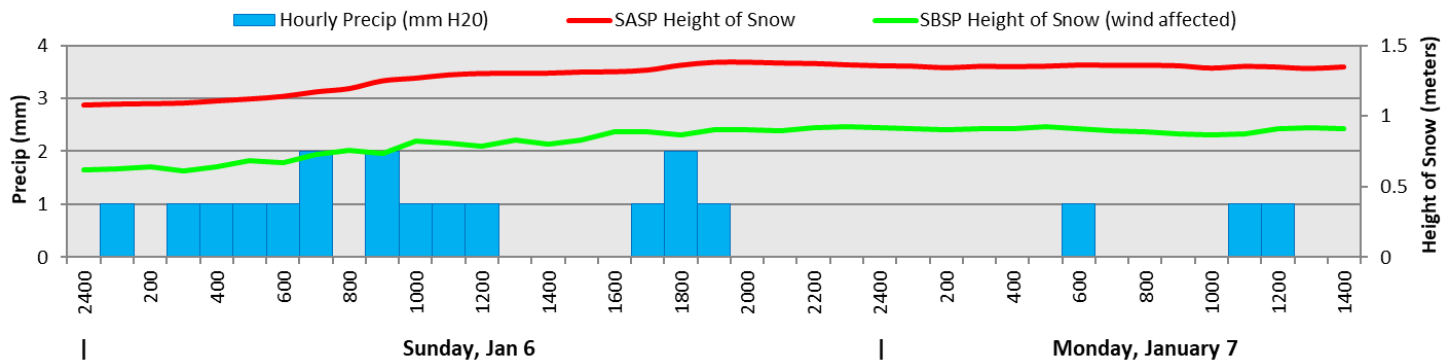
Peak gust: 37.6 mph



# 2018/2019 WINTER STORM #8

2018-19 Winter Storm #8: Jan 5-7, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

**Storm precip began** between 2400 – 0100 hrs MST Saturday, January 5, 2019 (DOY 005)

**Storm precipitation ended:** 1200 hrs MST Monday, January 7, 2019 (DOY 007)

**Storm duration** = 37 hrs

**Storm total water content at SASP** = 19 mm (0.7 inches)

**Mean precip intensity:** 0.51 mm/hr

**Max precip intensity:** 2 mm/hour on DOY 006 at multiple times.

**Max gain in snow depth at SASP** = 16.7 cm (10.5 inches)

**Max gain in snow depth at SBSP** (wind affected) = 29.4 cm (11.6 inches)

**Peak gust at PTSP at:** 2000 hrs MST Sunday, January 06, 2019 (DOY 006)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 37

No. of missing hours: 0

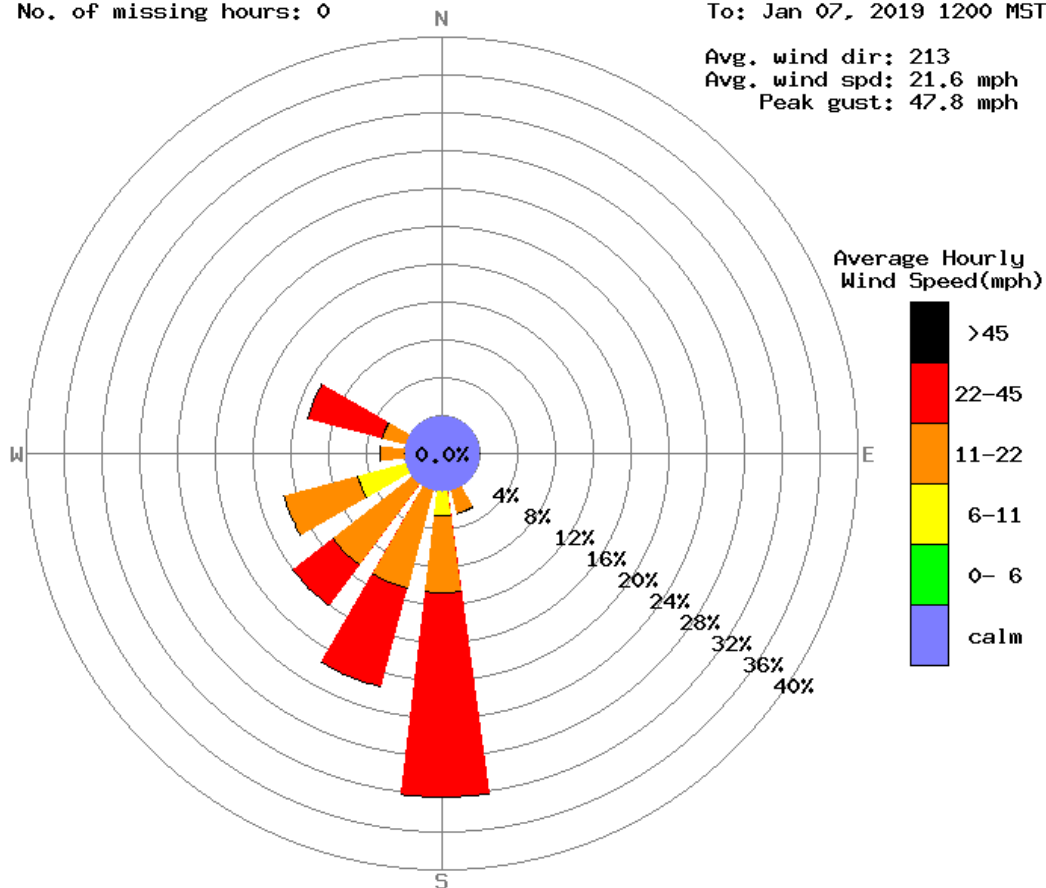
From hour ending: Jan 06, 2019 0000 MST

To: Jan 07, 2019 1200 MST

Avg. wind dir: 213

Avg. wind spd: 21.6 mph

Peak gust: 47.8 mph

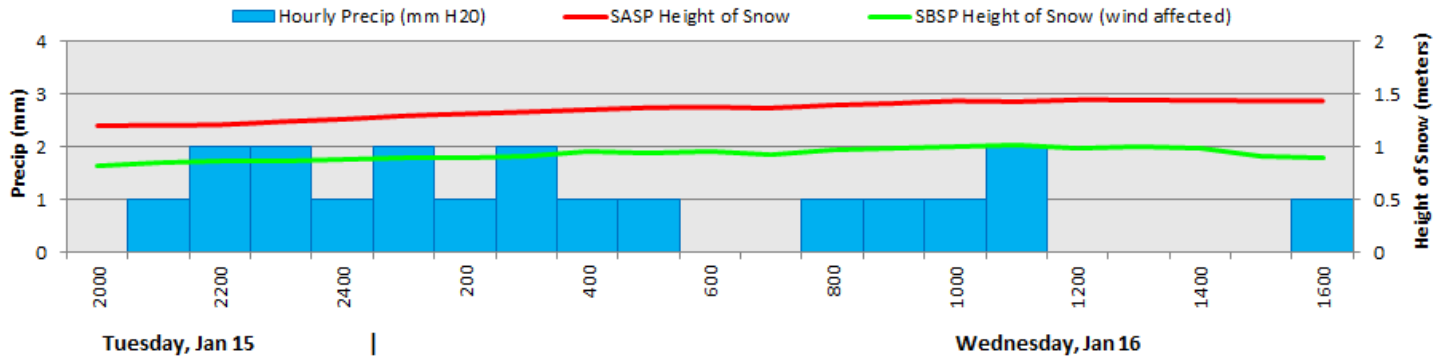




# 2018/2019 WINTER STORM #9

2018-19 Winter Storm #9: Jan 15-16, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 2000 – 2100 hrs MST Tuesday, January 15, 2019 (DOY 15)

Storm precipitation ended: 1600 hrs MST Wednesday, January 16, 2019 (DOY 16)

Storm duration = 21 hrs

Storm total water content at SASP = 19 mm (0.7 inches)

Mean precip intensity: 0.90 mm/hr

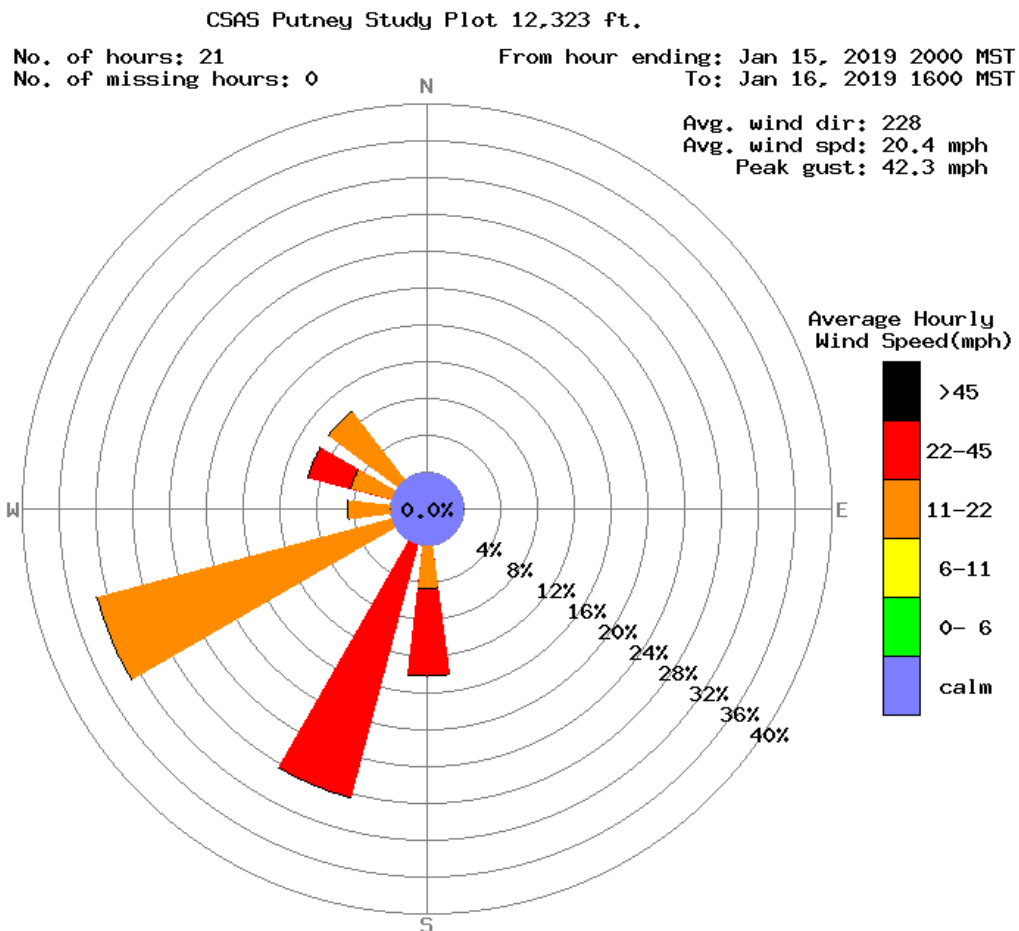
Max precip intensity: 2 mm/hour on multiple occasions

Max gain in snow depth at SASP = 23.6 cm (9.3 inches)

Max gain in snow depth at SBSP (wind affected) = 8.6 cm (3.4 inches)

Peak gust at PTSP at: 1345 hrs MST Tuesday, January 16, 2019 (DOY 16)

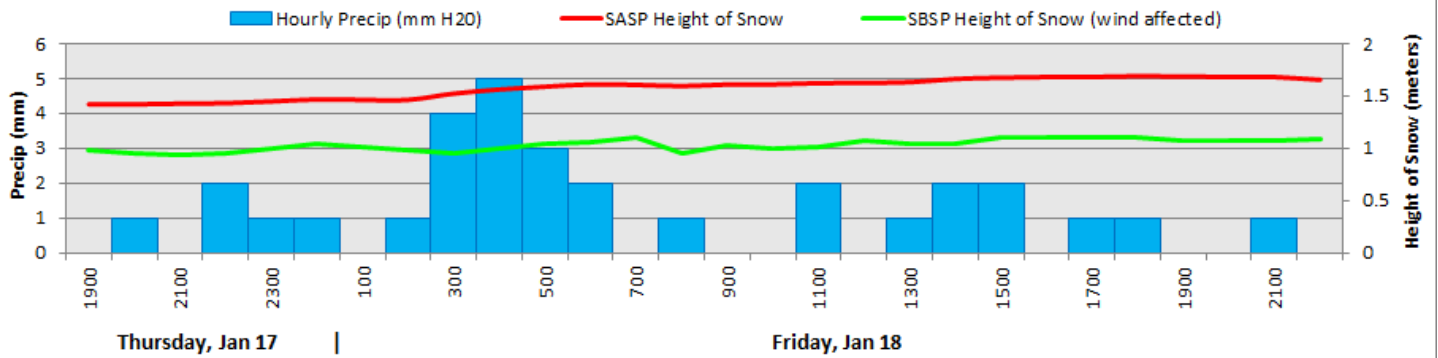
## Storm Wind Rose (Putney Study Plot data)



# 2018/2019 WINTER STORM #10

2018-19 Winter Storm #10: Jan 17-18, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1900 – 2000 hrs MST Thursday, January 17, 2019 (DOY 17)

Storm precipitation ended: 2100 hrs MST Friday, January 18, 2019 (DOY 18)

Storm duration = 27 hrs

Storm total water content at SASP = 31 mm (1.2 inches)

Mean precip intensity: 1.48 mm/hr

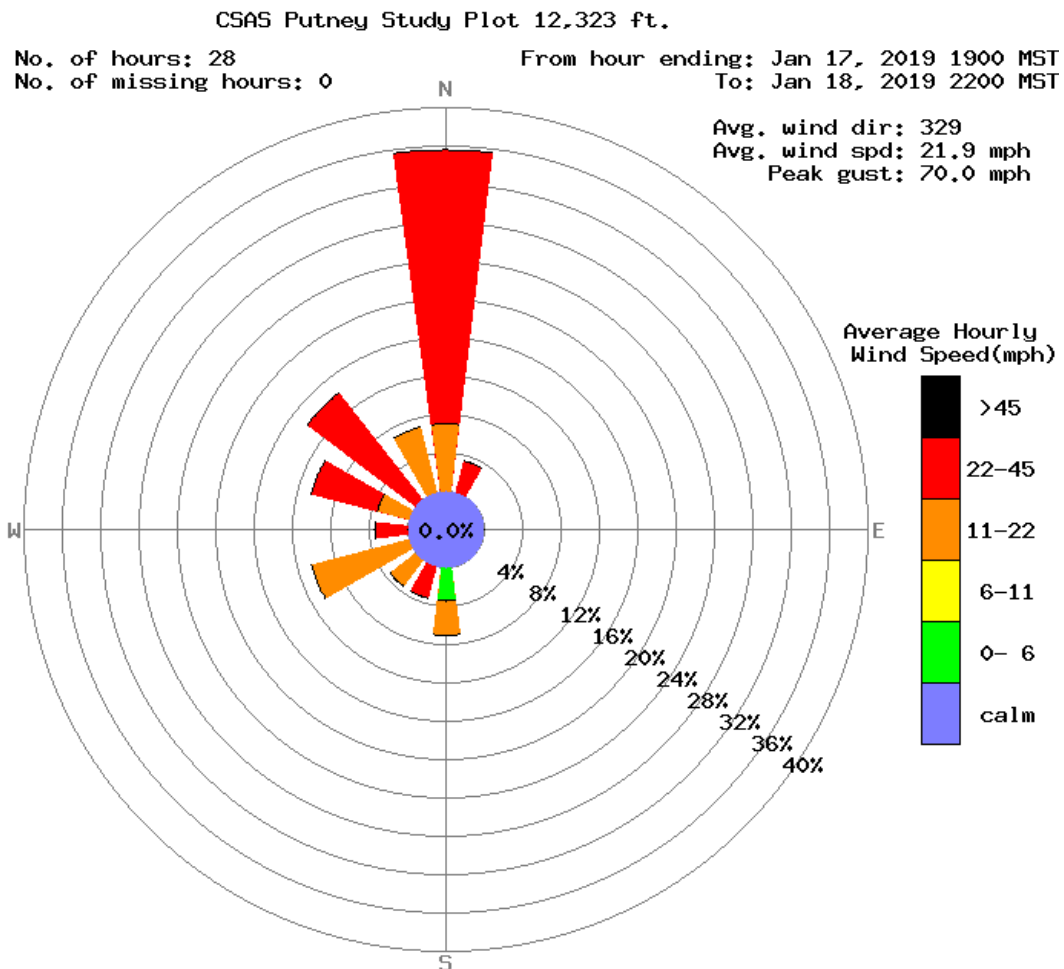
Max precip intensity: 5 mm/hour on Friday at 0400 multiple occasions

Max gain in snow depth at SASP = 26.1 cm (10.3 inches)

Max gain in snow depth at SBSP (wind affected) = 9.5 cm (3.7 inches)

Peak gust at PTSP at: 1345 hrs MST Tuesday, January 16, 2019 (DOY 16)

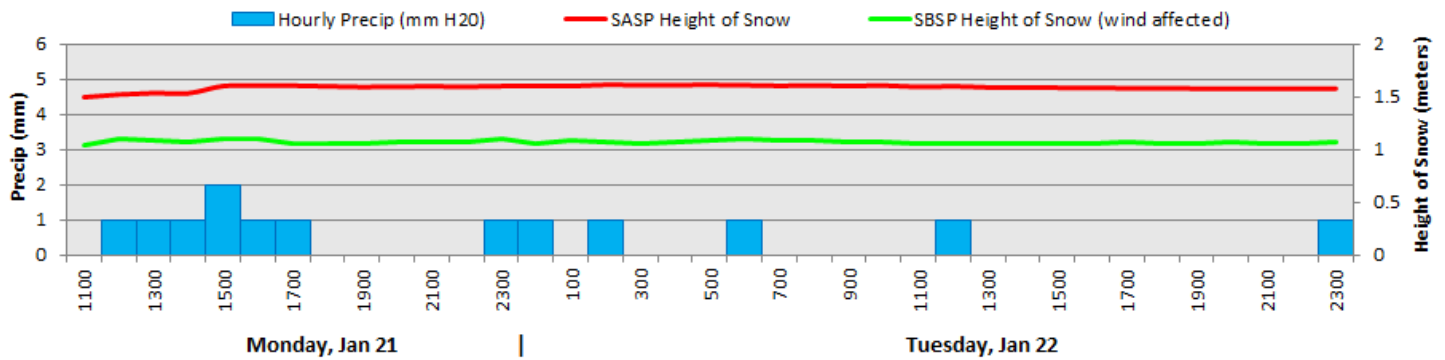
## Storm Wind Rose (Putney Study Plot data)



# 2018/2019 WINTER STORM #11

2018-19 Winter Storm #11: Jan 21-22, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1100 – 1200 hrs MST Monday, January 21, 2019 (DOY 21)

Storm precipitation ended: 2300 hrs MST Tuesday, January 22, 2019 (DOY 22)

Storm duration = 37 hrs

Storm total water content at SASP = 13 mm (0.5 inches)

Mean precip intensity: 0.35 mm/hr

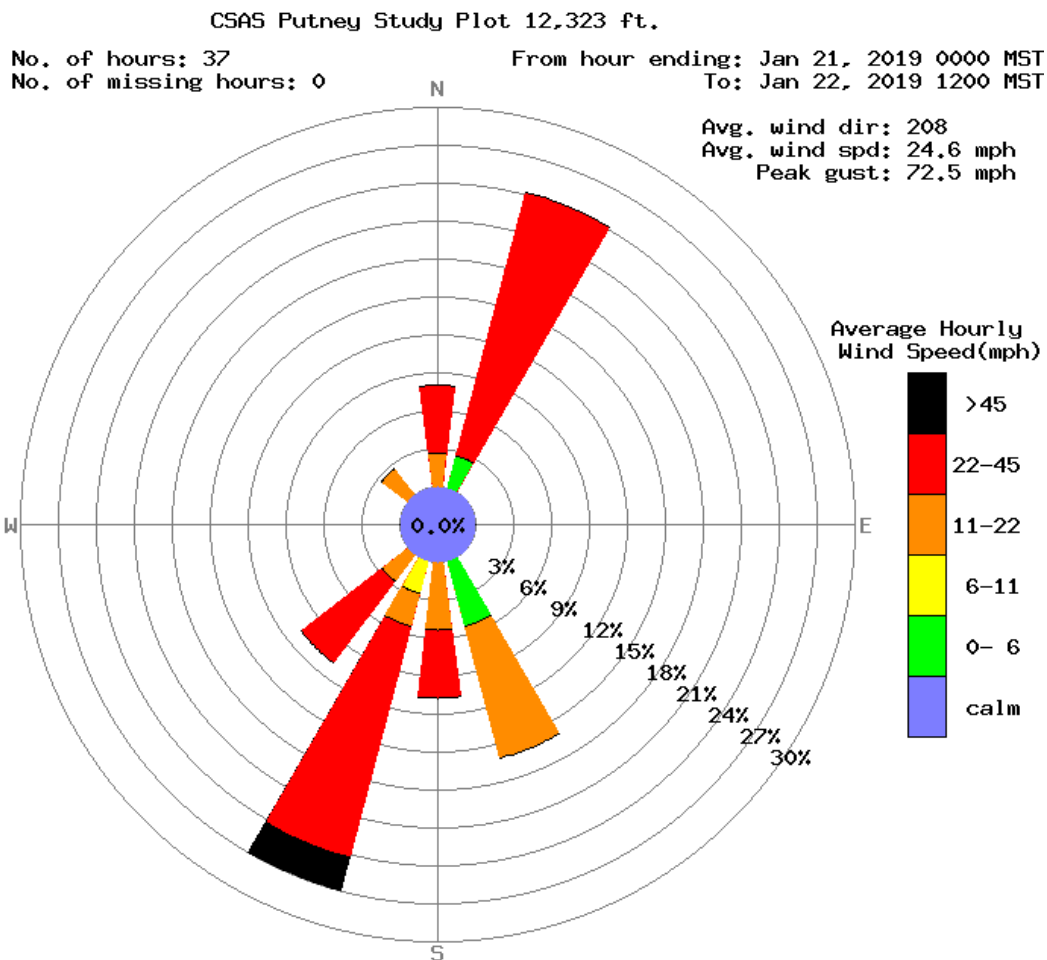
Max precip intensity: 2 mm/hour on Monday, January 21 during the hour 1400

Max gain in snow depth at SASP = 8.2 cm (3.2 inches)

Max gain in snow depth at SBSP (wind affected) = 2.1 cm (0.8 inches)

Peak gust at PTSP at: 1224 hrs MST Monday, January 21, 2019 (DOY 21)

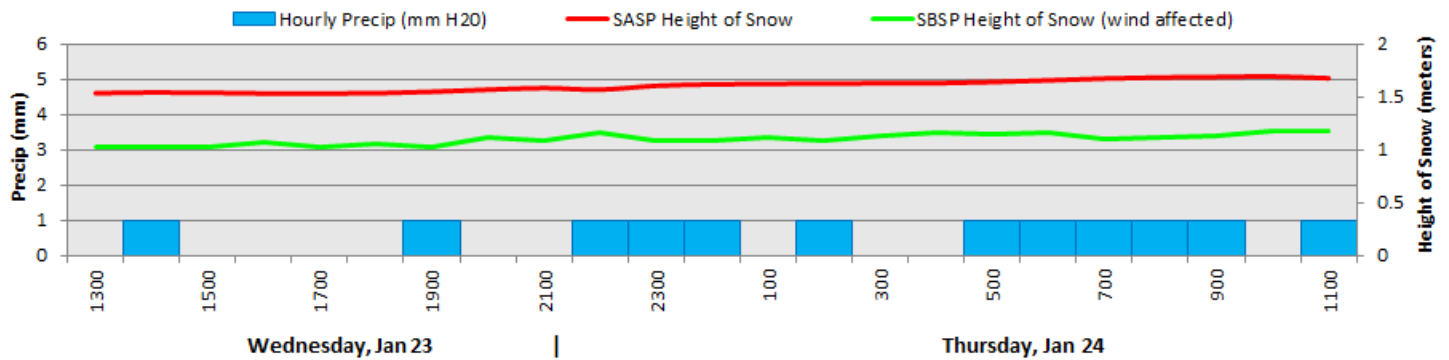
## Storm Wind Rose (Putney Study Plot data)



# 2018/2019 WINTER STORM #12

2018-19 Winter Storm #12: Jan 23-24, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1300 – 1400 hrs MST Wednesday, January 23, 2019 (DOY 23)

Storm precipitation ended: 1100 hrs MST Thursday, January 24, 2019 (DOY 24)

Storm duration = 23 hrs

Storm total water content at SASP = 12 mm (0.5 inches)

Mean precip intensity: 0.52 mm/hr

Max precip intensity: 1 mm/hour on multiple occasions

Max gain in snow depth at SASP = 14.1 cm (5.6 inches)

Max gain in snow depth at SBSP (wind affected) = 14.9 cm (5.9 inches)

Peak gust at PTSP at: 1936 hrs MST Wednesday, January 23, 2019 (DOY 23)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 23

No. of missing hours: 0

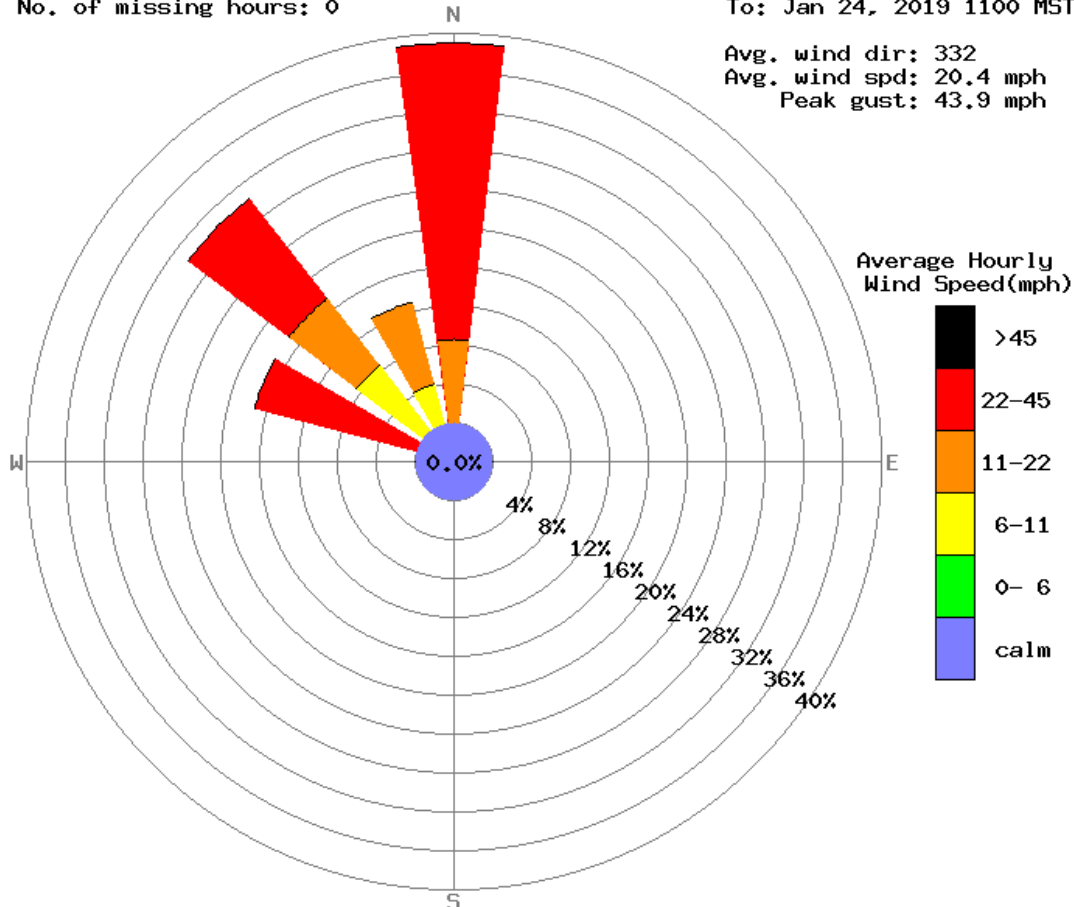
From hour ending: Jan 23, 2019 1300 MST

To: Jan 24, 2019 1100 MST

Avg. wind dir: 332

Avg. wind spd: 20.4 mph

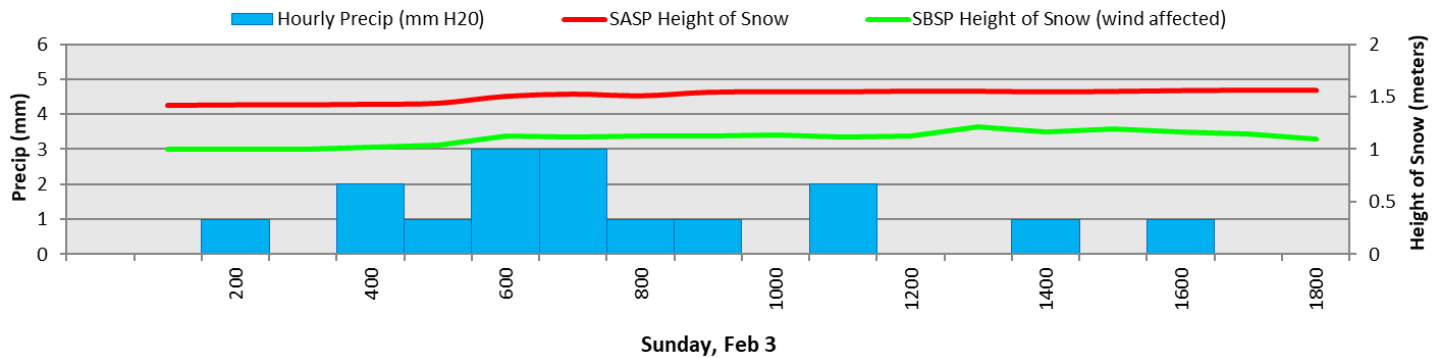
Peak gust: 43.9 mph



# 2018/2019 WINTER STORM #13

2018-19 Winter Storm #13: Feb 3, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0100 – 0200 hrs MST Sunday, February 3, 2019 (DOY 34)

Storm precipitation ended: 1600 hrs MST Sunday, February 3, 2019 (DOY 34)

Storm duration = 16 hrs

Storm total water content at SASP = 16 mm (0.6 inches)

Mean precip intensity: 1 mm/hr

Max precip intensity: 3 mm/hour on multiple occasions

Max gain in snow depth at SASP = 14.2 cm (5.6 inches)

Max gain in snow depth at SBSP (wind affected) = 16.2 cm (6.4 inches)

Peak gust at PTSP at: 800 hrs MST Sunday, February 3, 2019 (DOY 34)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 16

No. of missing hours: 0

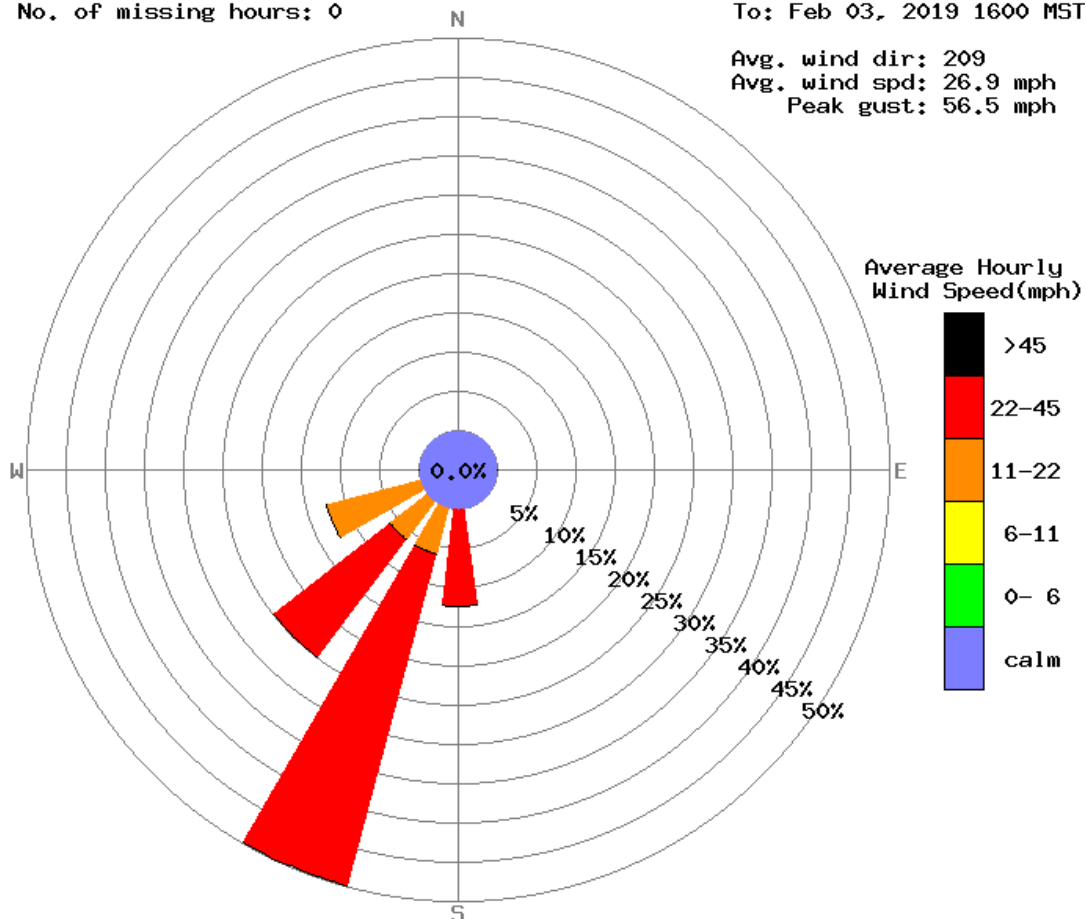
From hour ending: Feb 03, 2019 0100 MST

To: Feb 03, 2019 1600 MST

Avg. wind dir: 209

Avg. wind spd: 26.9 mph

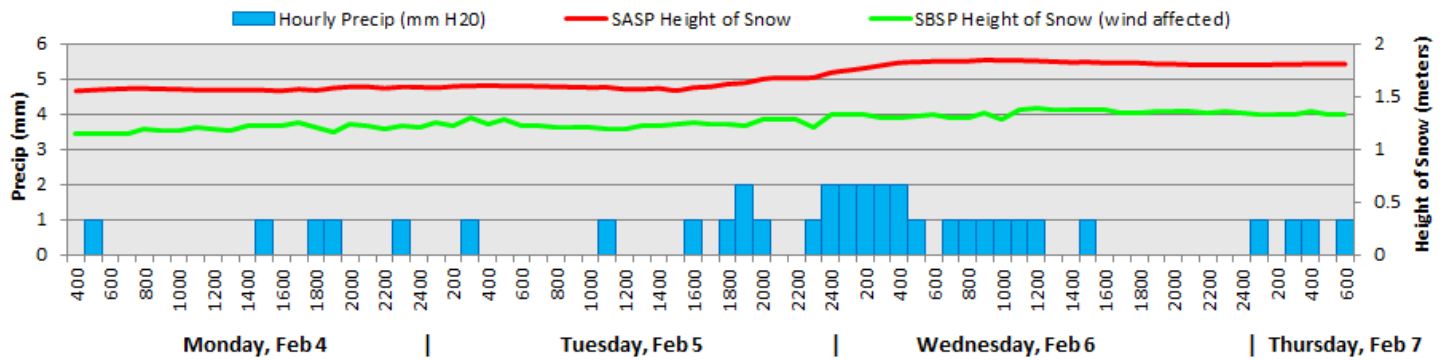
Peak gust: 56.5 mph



# 2018/2019 WINTER STORM #14

2018-19 Winter Storm #14: Feb 4-7, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0400 – 0500 hrs MST Monday, February 4, 2019 (DOY 35)

Storm precipitation ended: 0600 hrs MST Thursday, February 7, 2019 (DOY 38)

Storm duration = 75 hrs

Storm total water content at SASP = 35 mm (1.4 inches)

Mean precip intensity: 0.47 mm/hr

Max precip intensity: 2 mm/hour on multiple occasions

Max gain in snow depth at SASP = 25.5 cm (10.0 inches)

Max gain in snow depth at SBSP (wind affected) = 19.0 cm (7.5 inches)

Peak gust at PTSP at: 525 hrs MST Tuesday, February 5, 2019 (DOY 36)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 75

No. of missing hours: 0

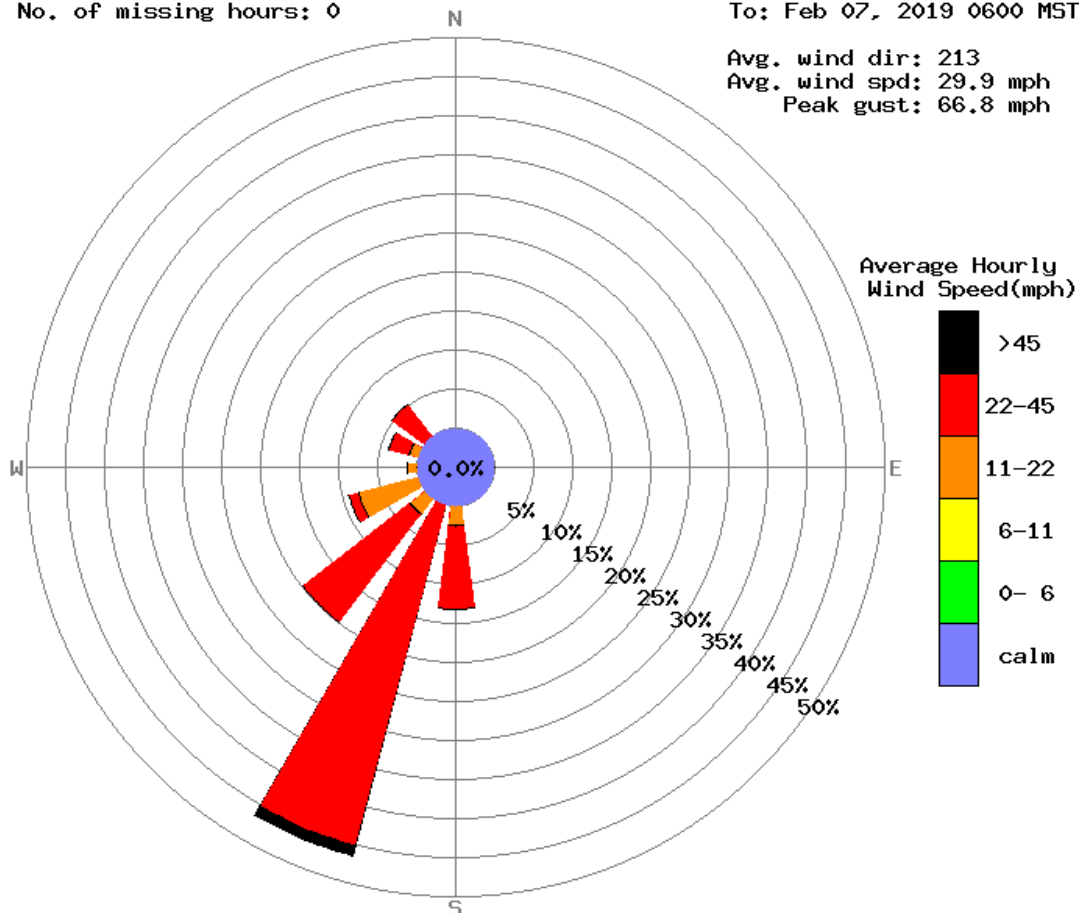
From hour ending: Feb 04, 2019 0400 MST

To: Feb 07, 2019 0600 MST

Avg. wind dir: 213

Avg. wind spd: 29.9 mph

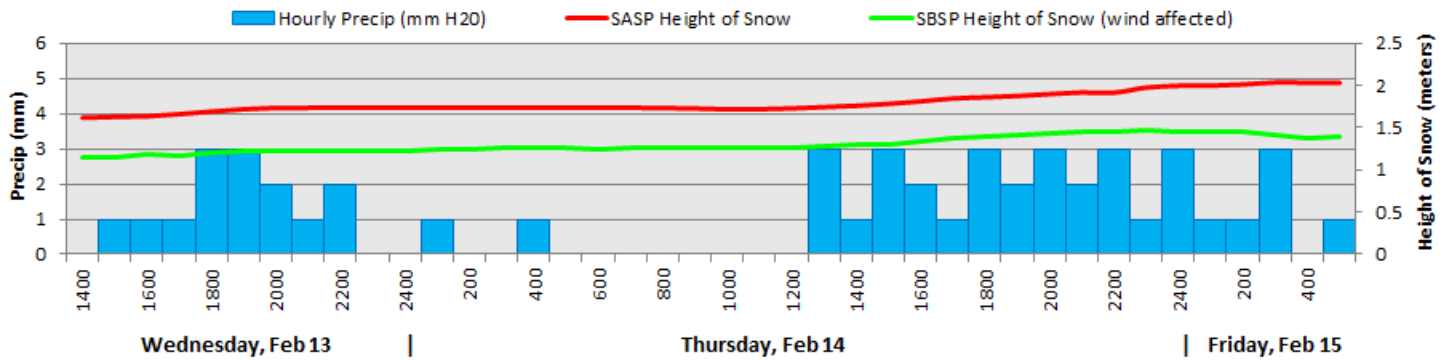
Peak gust: 66.8 mph



# 2018/2019 WINTER STORM #15

2018-19 Winter Storm #15: Feb 13-15, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1400 – 1500 hrs MST Wednesday, February 13, 2019 (DOY 44)

Storm precipitation ended: 0500 hrs MST Friday, February 15, 2019 (DOY 46)

Storm duration = 40 hrs

Storm total water content at SASP = 49 mm (1.9 inches)

Mean precip intensity: 1.23 mm/hr

Max precip intensity: 3 mm/hour on multiple occasions

Max gain in snow depth at SASP = 41.3 cm (16.3 inches)

Max gain in snow depth at SBSP (wind affected) = 25.2 cm (9.9 inches)

Peak gust at PTSP at: 87.8 mph peak at 0100 hrs MST Friday, February 15, 2019 (DOY 46)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 40

No. of missing hours: 0

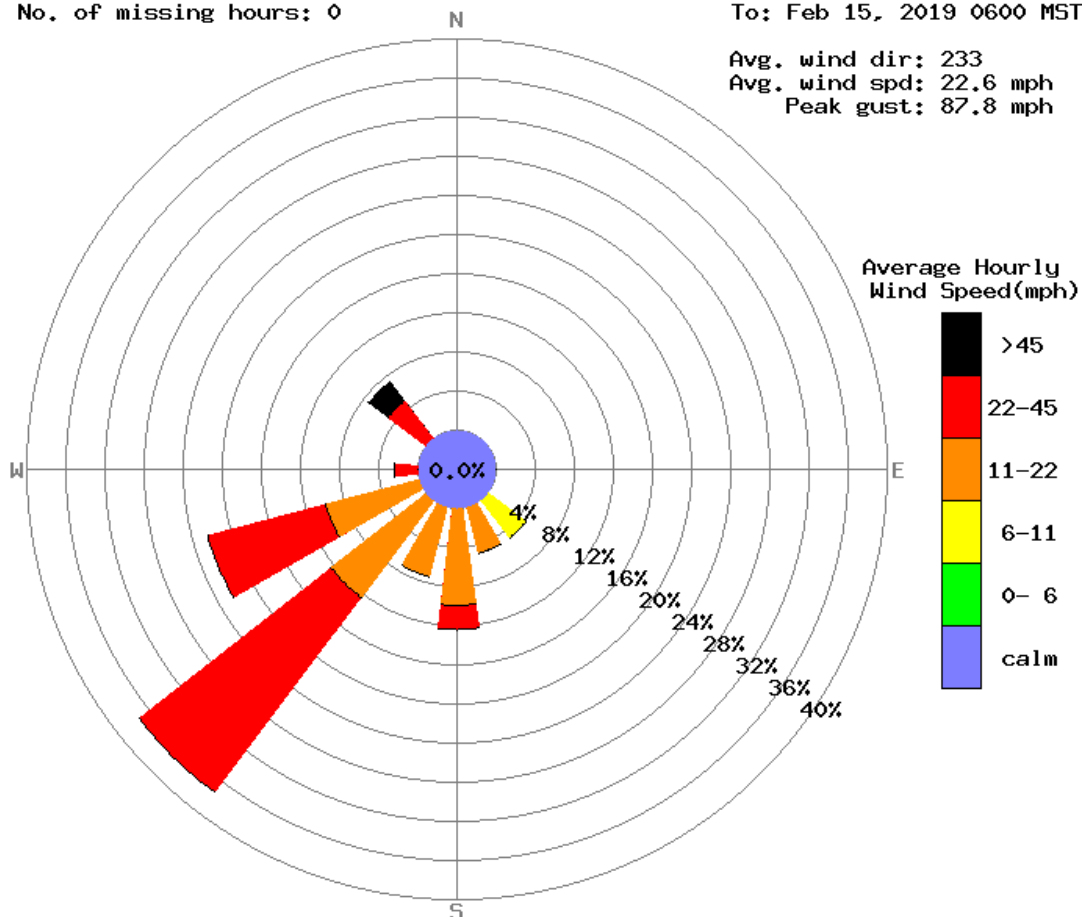
From hour ending: Feb 13, 2019 1500 MST

To: Feb 15, 2019 0600 MST

Avg. wind dir: 233

Avg. wind spd: 22.6 mph

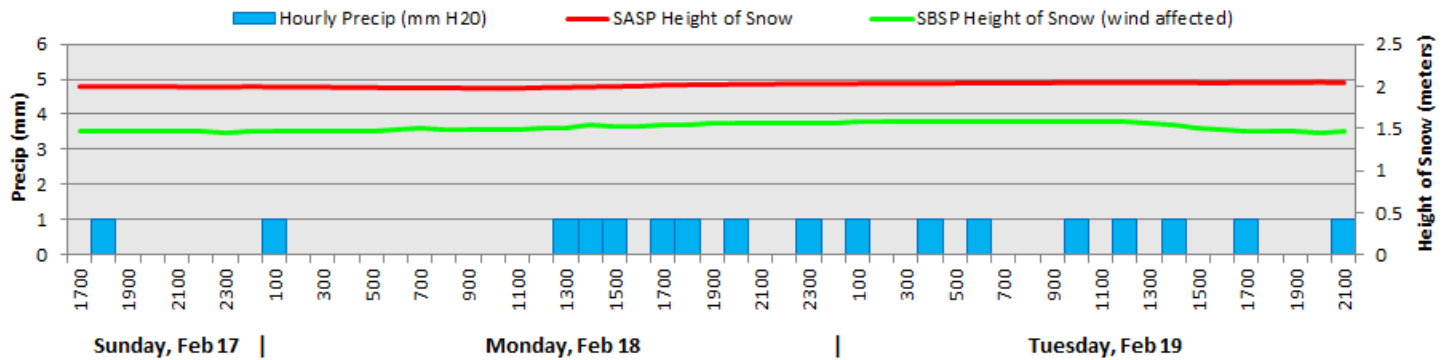
Peak gust: 87.8 mph



# 2018/2019 WINTER STORM #16

2018-19 Winter Storm #16: Feb 17-19, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1700 – 1800 hrs MST Sunday, February 17, 2019 (DOY 48)

Storm precipitation ended: 2100 hrs MST Tuesday, February 19, 2019 (DOY 50)

Storm duration = 53 hrs

Storm total water content at SASP = 17 mm (.7 inches)

Mean precip intensity: 0.32 mm/hr

Max precip intensity: 1 mm/hour on multiple occasions

Max gain in snow depth at SASP = 4.5 cm (1.8 inches)

Max gain in snow depth at SBSP (wind affected) = 0 cm

Peak gust at PTSP at: 1730 on February 18, 2019 (DOY 49)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 53

No. of missing hours: 0

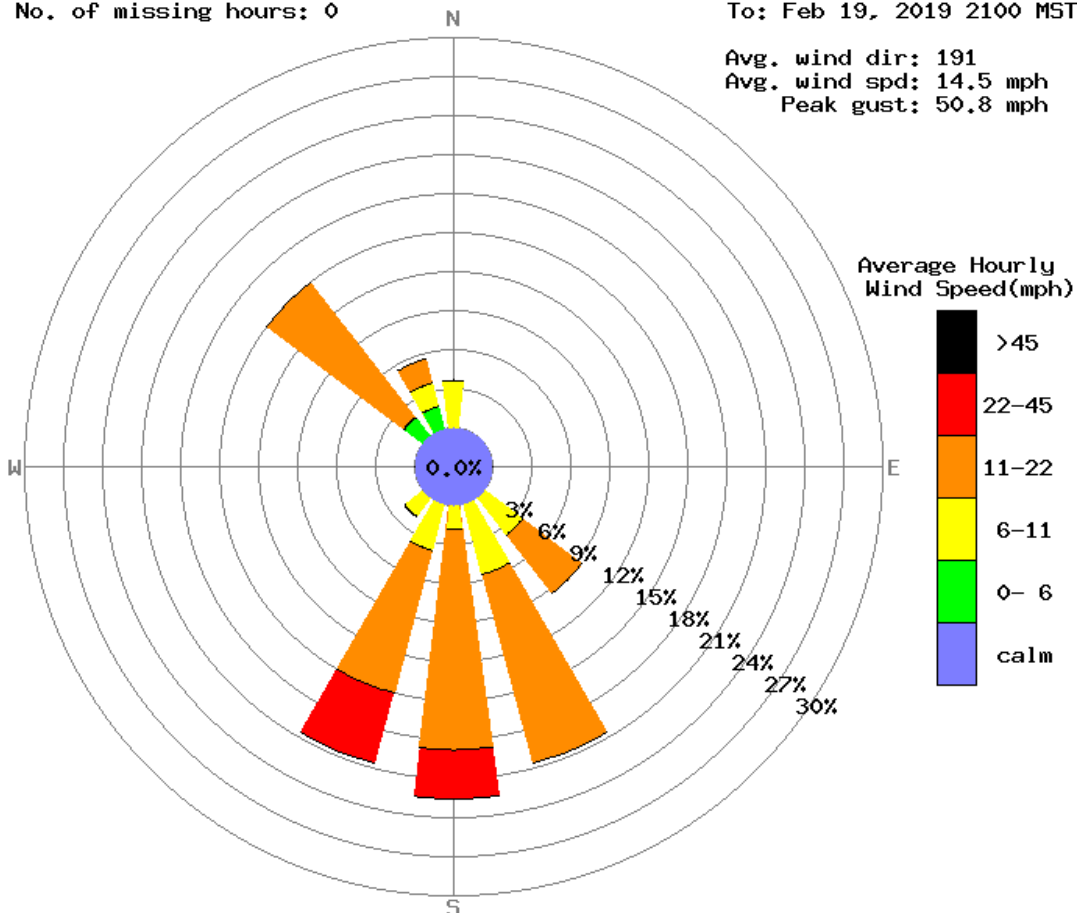
From hour ending: Feb 17, 2019 1700 MST

To: Feb 19, 2019 2100 MST

Avg. wind dir: 191

Avg. wind spd: 14.5 mph

Peak gust: 50.8 mph

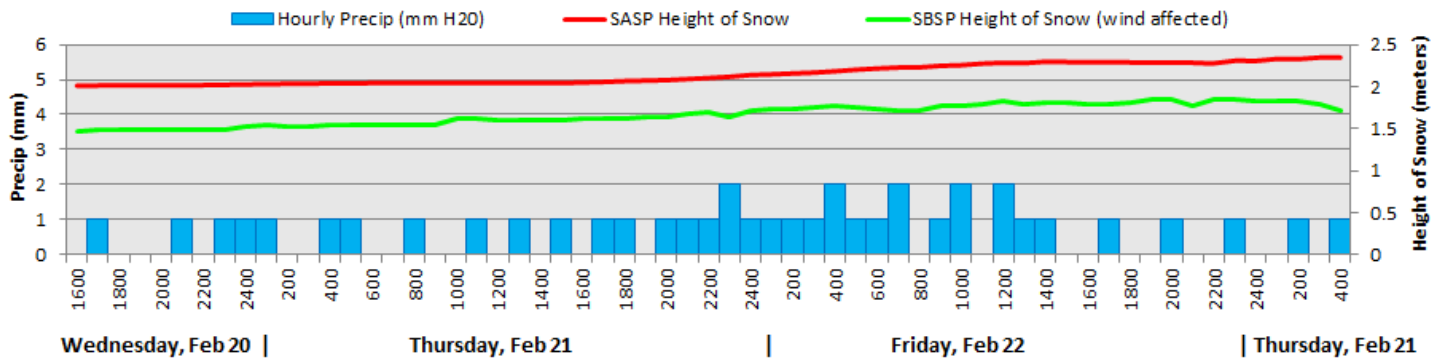




# 2018/2019 WINTER STORM #17

2018-19 Winter Storm #17: Feb 20-23, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1600 – 1700 hrs MST Wednesday, February 20, 2019 (DOY 51)

Storm precipitation ended: 40000 hrs MST Saturday, February 23, 2019 (DOY 54)

Storm duration = 61 hrs

Storm total water content at SASP = 40 mm (1.6 inches)

Mean precip intensity: 0.66 mm/hr

Max precip intensity: 2 mm/hour on multiple occasions

Max gain in snow depth at SASP = 33.3 cm (13.1 inches)

Max gain in snow depth at SBSP (wind affected) = 24.1 cm (9.5 inches)

Peak gust at PTSP at: 736 on February 22, 2019 (DOY 53)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 61

No. of missing hours: 0

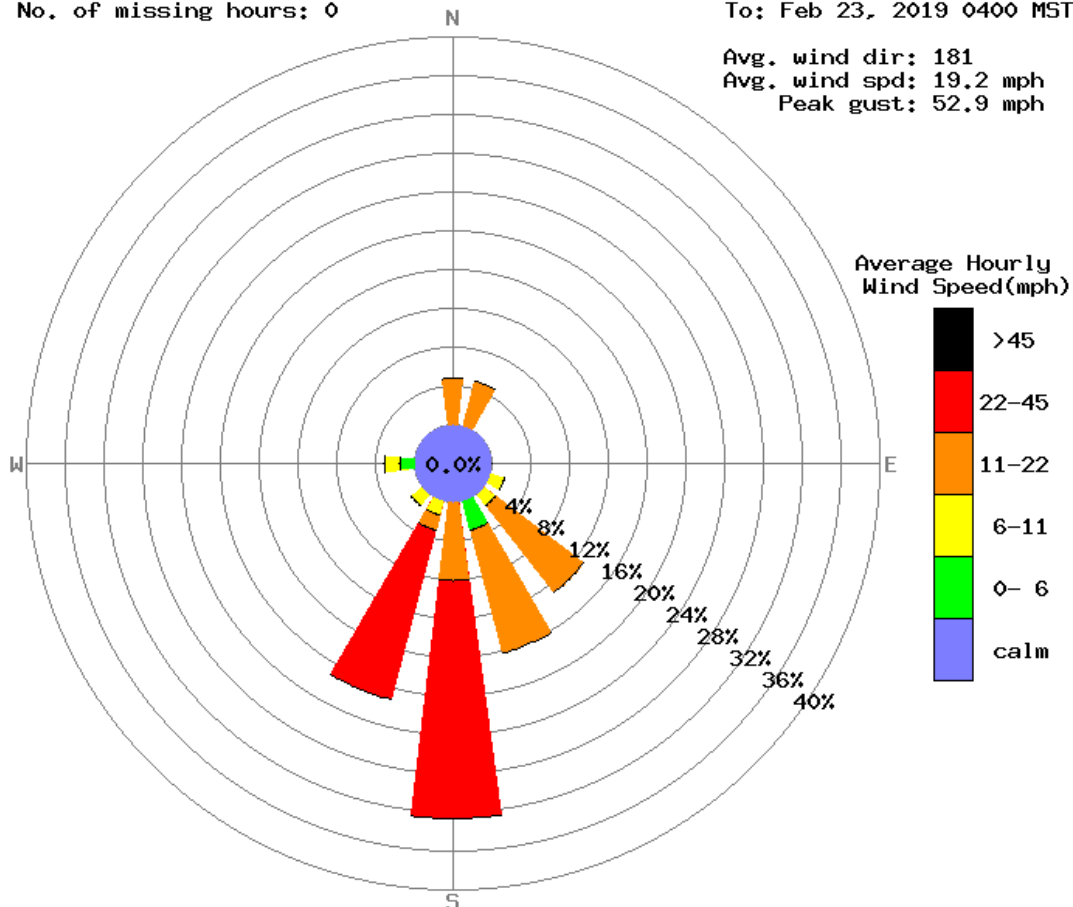
From hour ending: Feb 20, 2019 1600 MST

To: Feb 23, 2019 0400 MST

Avg. wind dir: 181

Avg. wind spd: 19.2 mph

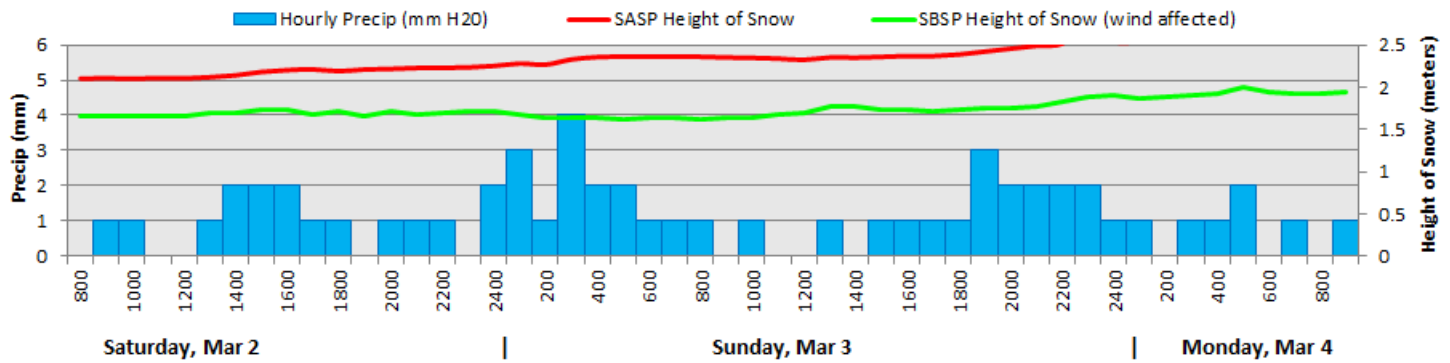
Peak gust: 52.9 mph



# 2018/2019 WINTER STORM #18

2018-19 Winter Storm #18: March 2-4, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0800 – 0900 hrs MST Saturday, March 2, 2019 (DOY 61)

Storm precipitation ended: 0900 hrs MST Monday, March 4, 2019 (DOY 63)

Storm duration = 50 hrs

Storm total water content at SASP = 56 mm (2.2 inches)

Mean precip intensity: 1.12 mm/hr

Max precip intensity: 4 mm/hour at 0300 on Sunday, March 3 (DOY 62)

Max gain in snow depth at SASP = 50.5 cm (19.9 inches)

Max gain in snow depth at SBSP (wind affected) = 29.6 cm (11.7 inches)

Peak gust at PTSP at: 1931 on Saturday, March 2, 2019 (DOY 61)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 50

No. of missing hours: 0

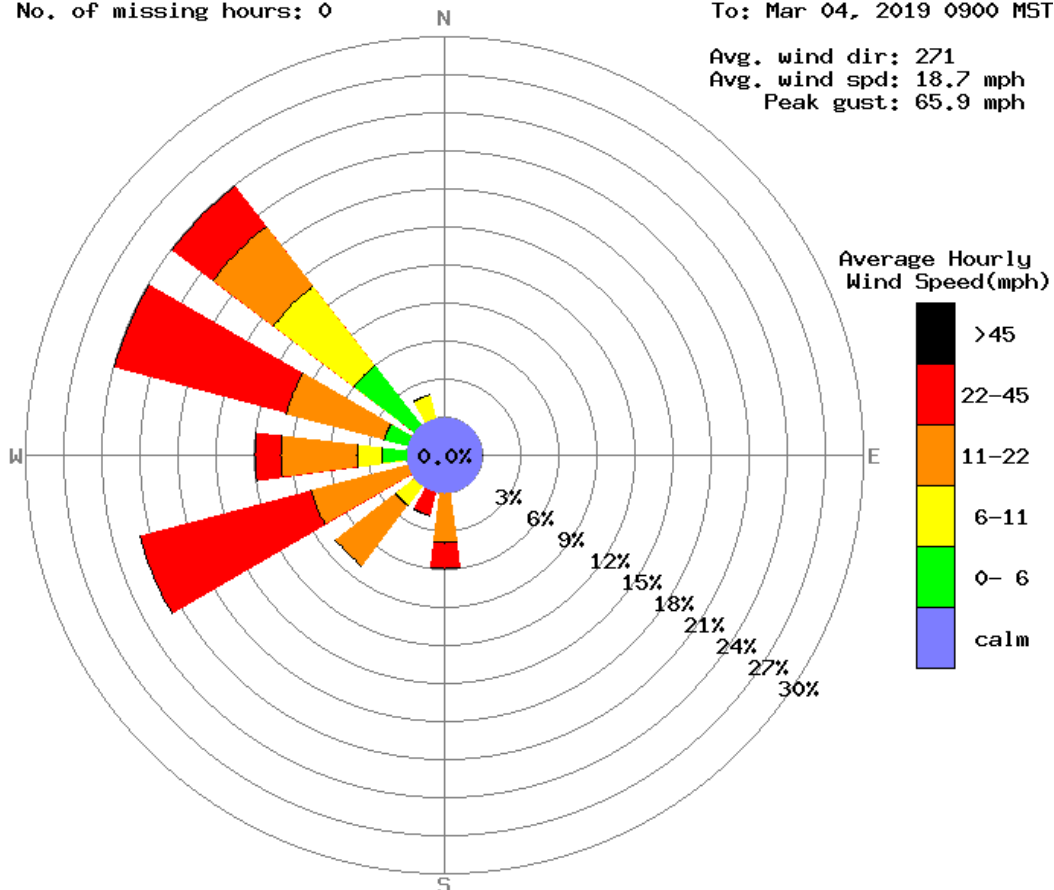
From hour ending: Mar 02, 2019 0800 MST

To: Mar 04, 2019 0900 MST

Avg. wind dir: 271

Avg. wind spd: 18.7 mph

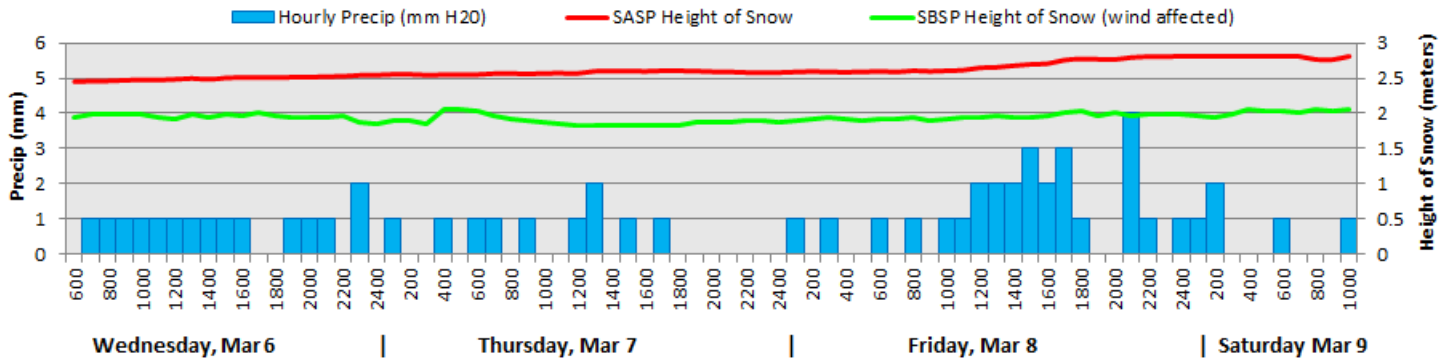
Peak gust: 65.9 mph



# 2018/2019 WINTER STORM #19

2018-19 Winter Storm #19: March 6-9, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0600 – 0700 hrs MST Wednesday, March 6, 2019 (DOY 65)

Storm precipitation ended: 1000 hrs MST Saturday, March 9, 2019 (DOY 68)

Storm duration = 77 hrs

Storm total water content at SASP = 57 mm (2.2 inches)

Mean precip intensity: 0.74 mm/hr

Max precip intensity: 4 mm/hour at 2100 on Friday, March 8 (DOY 67)

Max gain in snow depth at SASP = 35.9 cm (14.1 inches)

Max gain in snow depth at SBSP (wind affected) = 12.4 cm (4.9 inches)

Peak gust at PTSP at: 1559 on Wednesday, March 6, 2019 (DOY 65)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 77

No. of missing hours: 0

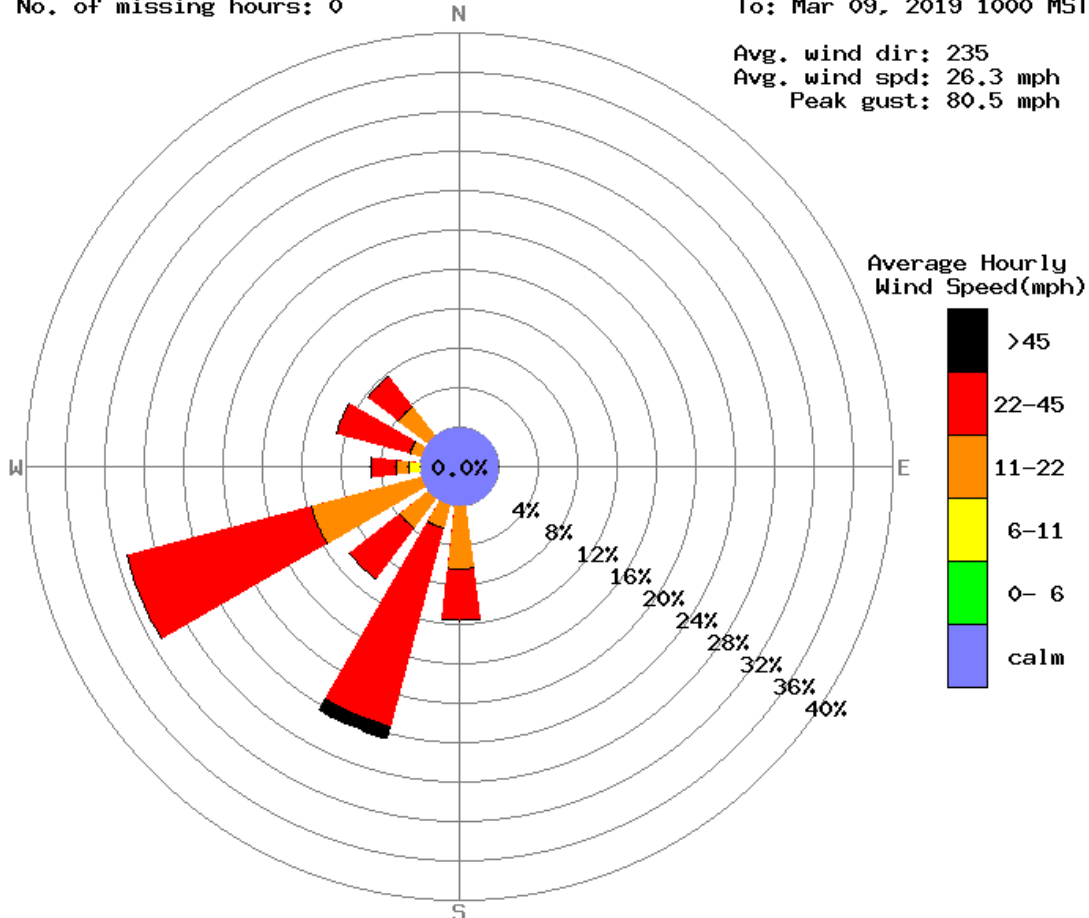
From hour ending: Mar 06, 2019 0600 MST

To: Mar 09, 2019 1000 MST

Avg. wind dir: 235

Avg. wind spd: 26.3 mph

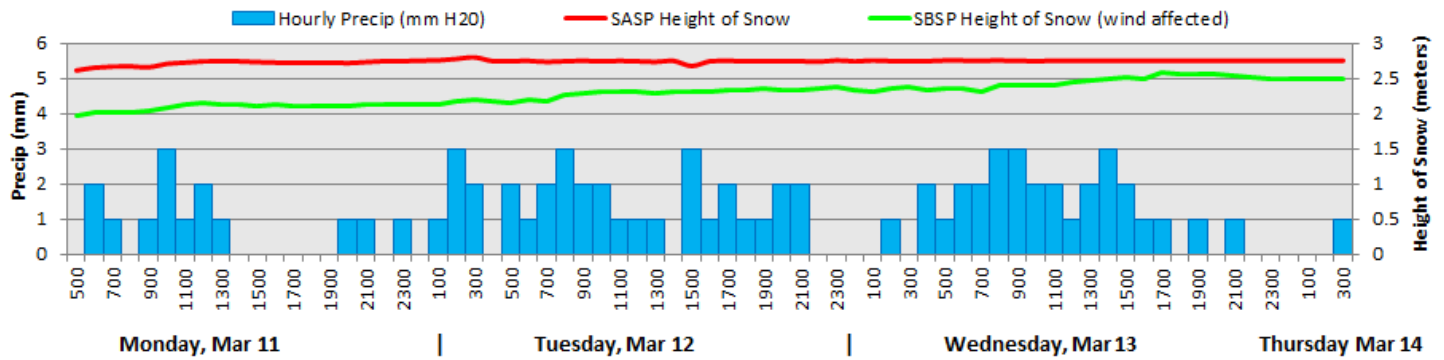
Peak gust: 80.5 mph



# 2018/2019 WINTER STORM #20

2018-19 Winter Storm #20: March 11-14, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0500 – 0600 hrs MST Monday, March 11, 2019 (DOY 70)

Storm precipitation ended: 0300 hrs MST Thursday, March 14, 2019 (DOY 73)

Storm duration = 71 hrs

Storm total water content at SASP = 78 mm (3.1 inches)

Mean precip intensity: 1.10 mm/hr

Max precip intensity: 3 mm/hour on multiple occasions

Max gain in snow depth at SASP = 13.9 cm (5.5 inches)

Max gain in snow depth at SBSP (wind affected) = 50.6 cm (19.9 inches)

Peak gust at PTSP at: 0706 on Wednesday, March 13, 2019 (DOY 72)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 71

No. of missing hours: 0

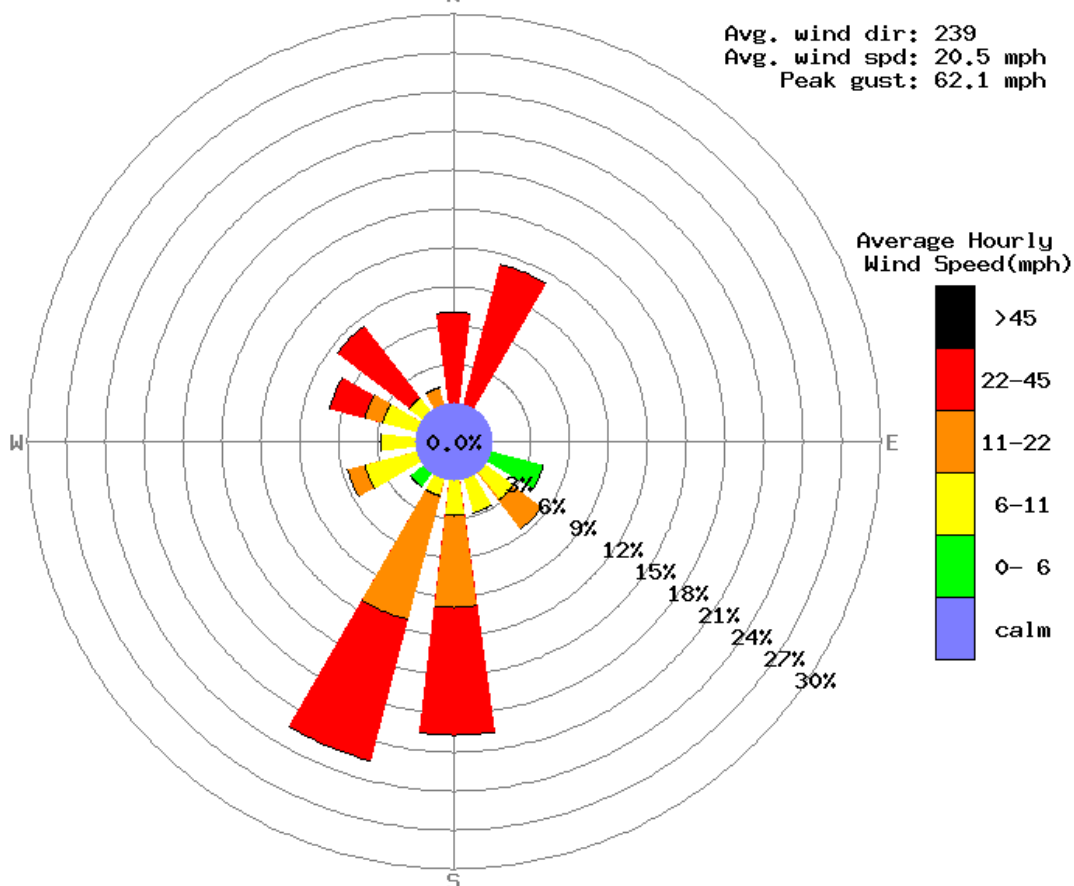
From hour ending: Mar 11, 2019 0500 MST

To: Mar 14, 2019 0300 MST

Avg. wind dir: 239

Avg. wind spd: 20.5 mph

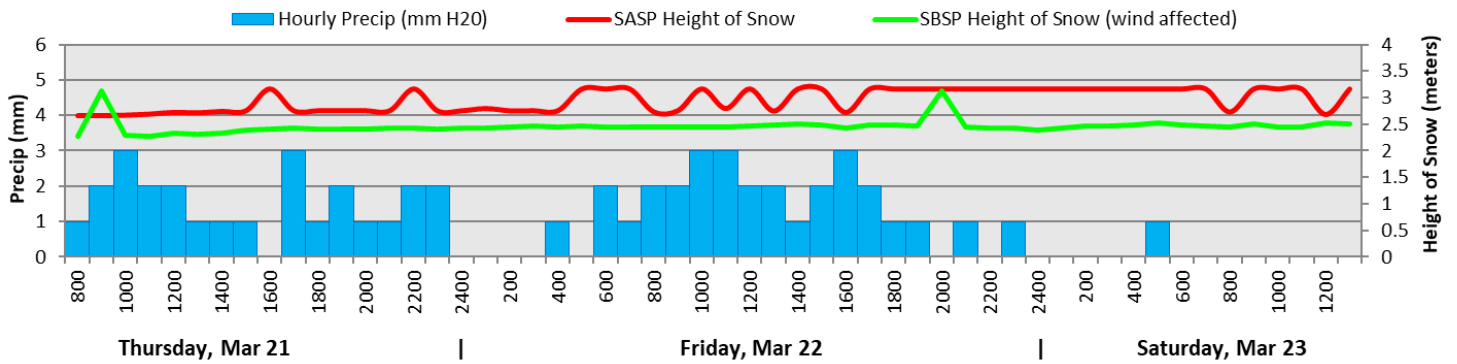
Peak gust: 62.1 mph



# 2018/2019 WINTER STORM #21

2018-19 Winter Storm #21: March 21-23, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

**Storm precip began** between 0800 – 0900 hrs MST Thursday, March 21, 2019 (DOY 80)

**Storm precipitation ended:** 1300 hrs MST Saturday, March 23, 2019 (DOY 82)

**Storm duration** = 54 hrs

**Storm total water content at SASP** = 29 mm (1.1 inches)

**Mean precip intensity:** 0.54 mm/hr

**Max precip intensity:** 4 mm/hour on March 21 at 1500

**Max gain in snow depth at SASP** = 50 cm (19.7 inches)

**Max gain in snow depth at SBSP** (wind affected) = 23.7 cm (9.3 inches)

**Peak gust at PTSP at:** 1800 on Thursday, March 21, 2019 (DOY 80)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 54

No. of missing hours: 0

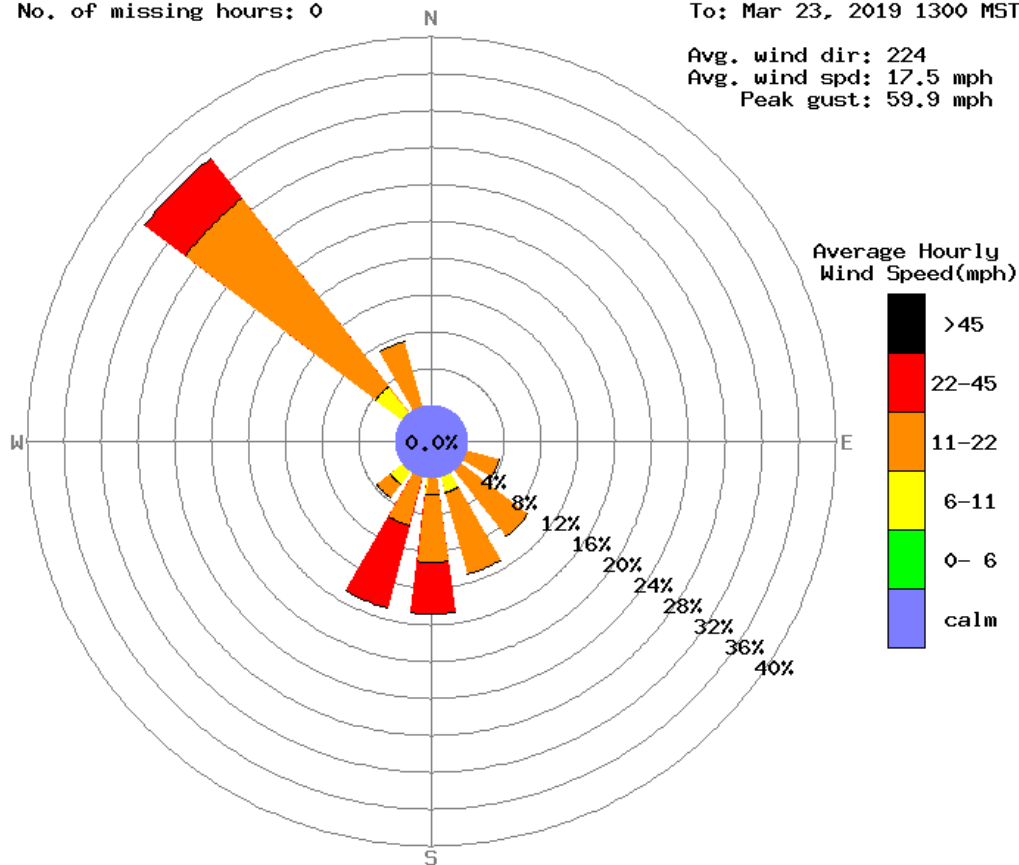
From hour ending: Mar 21, 2019 0800 MST

To: Mar 23, 2019 1300 MST

Avg. wind dir: 224

Avg. wind spd: 17.5 mph

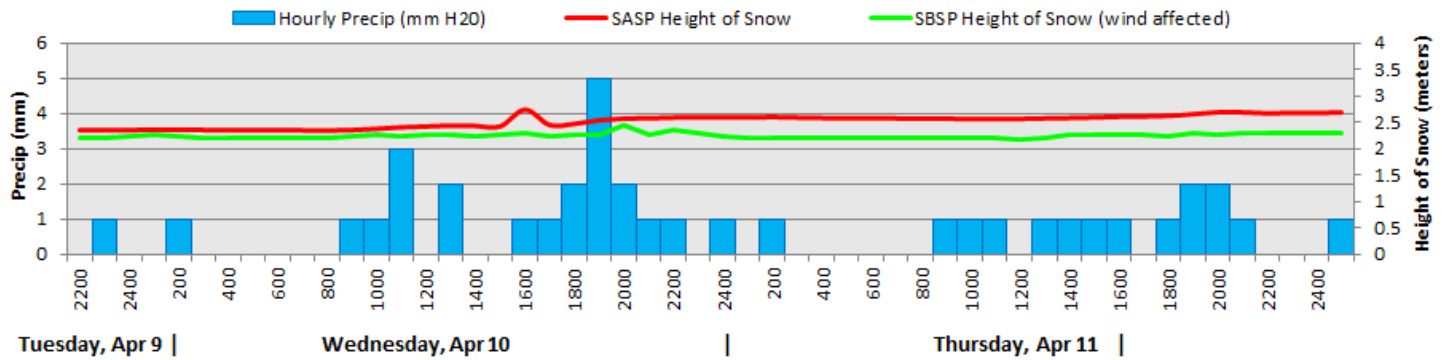
Peak gust: 59.9 mph



# 2018/2019 WINTER STORM #22

2018-19 Winter Storm #22: April 9-12, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 2200 – 2300 hrs MST Tuesday, April 9, 2019 (DOY 99)

Storm precipitation ended: 0100 hrs MST Friday, April 12, 2019 (DOY 102)

Storm duration = 52 hrs

Storm total water content at SASP = 38 mm (1.5 inches)

Mean precip intensity: 0.73 mm/hr

Max precip intensity: 5 mm/hour on April 10 at 2000 hrs MST

Max gain in snow depth at SASP = 33.7 cm (13.3 inches)

Max gain in snow depth at SBSP (wind affected) = 7.7 cm (3.0 inches)

Peak gust at PTSP at: 0351 on Wednesday, April 10, 2019 (DOY 100)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 52

No. of missing hours: 0

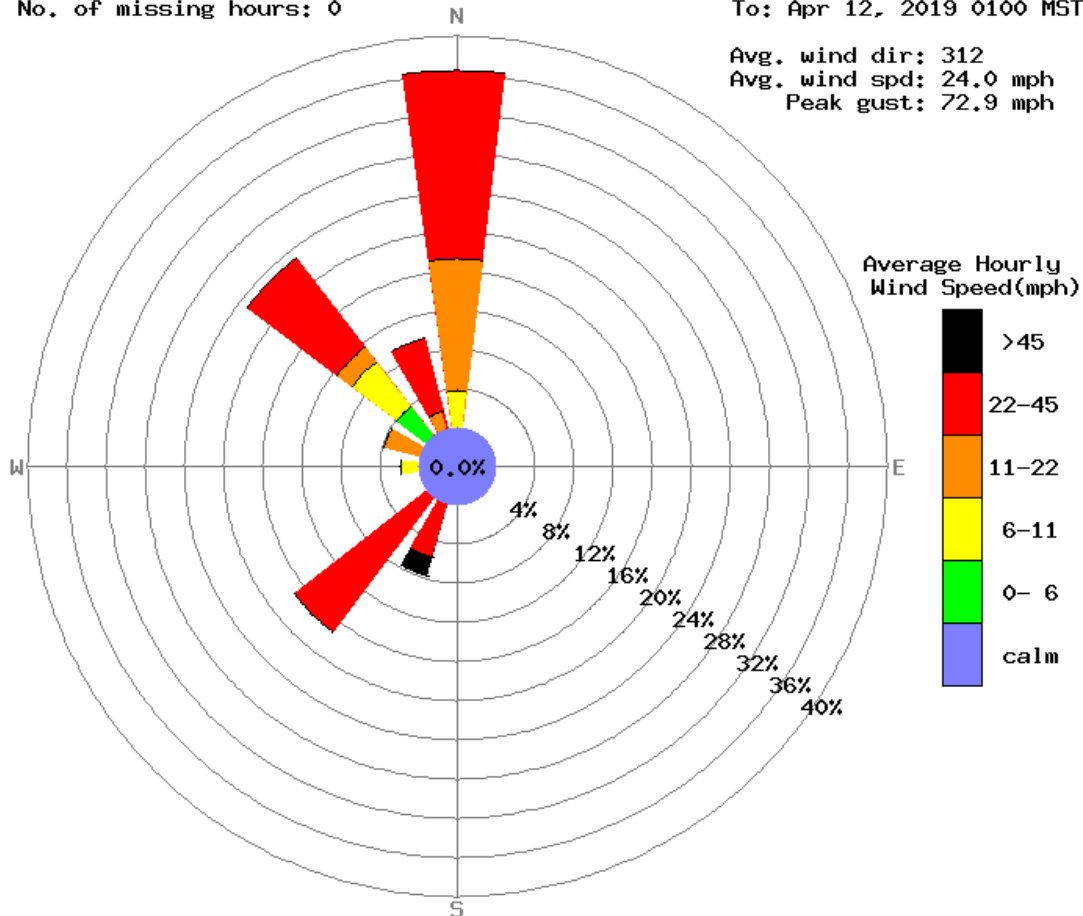
From hour ending: Apr 09, 2019 2200 MST

To: Apr 12, 2019 0100 MST

Avg. wind dir: 312

Avg. wind spd: 24.0 mph

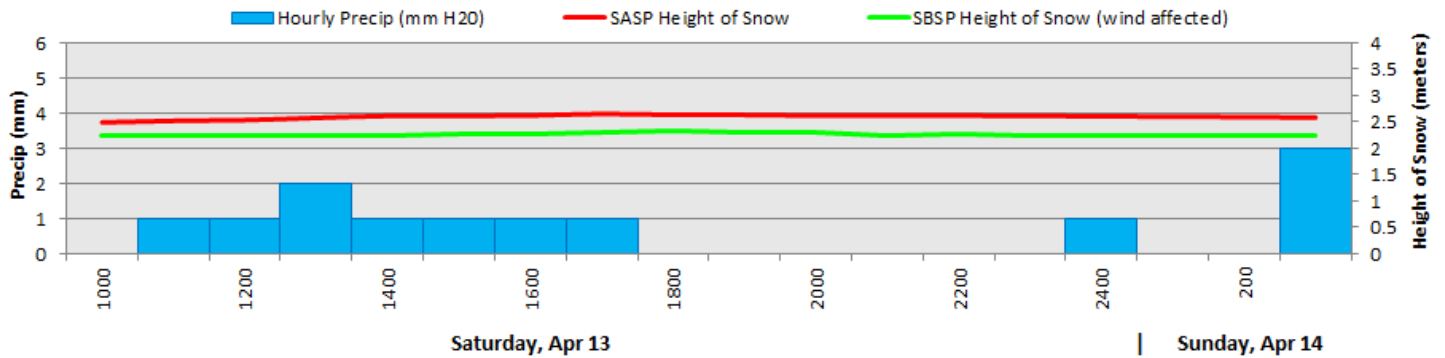
Peak gust: 72.9 mph



# 2018/2019 WINTER STORM #23

2018-19 Winter Storm #23: April 13-14, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0900 – 1000 hrs MST Saturday, April 13, 2019 (DOY 103)

Storm precipitation ended: 0300 hrs MST Sunday, April 14, 2019 (DOY 104)

Storm duration = 18 hrs

Storm total water content at SASP = 12 mm (0.47 inches)

Mean precip intensity: 0.67 mm/hr

Max precip intensity: 3 mm/hour on April 14 at 0300 hrs MST

Max gain in snow depth at SASP = 9 cm (3.5 inches)

Max gain in snow depth at SBSP (wind affected) = 1.0 cm (0.4 inches)

Peak gust at PTSP at: 0051 on Sunday, April 14, 2019 (DOY 104)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 18

No. of missing hours: 0

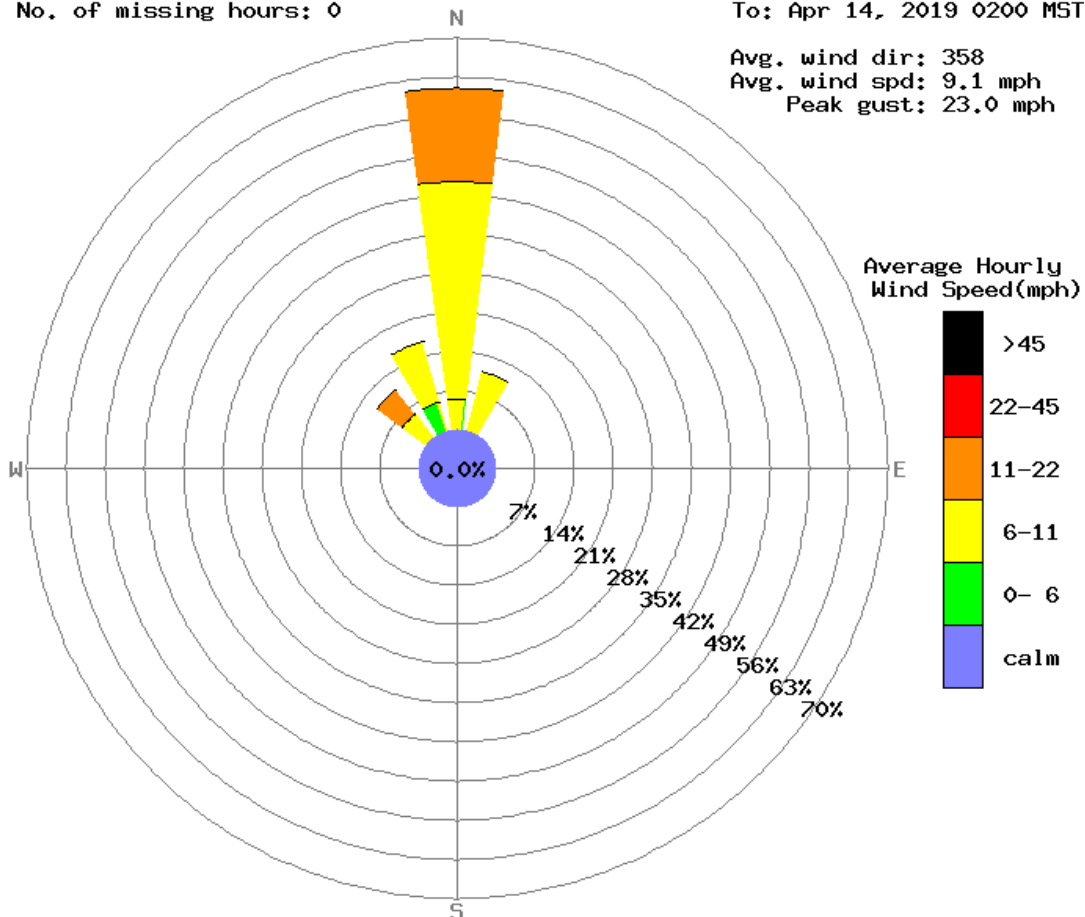
From hour ending: Apr 13, 2019 0900 MST

To: Apr 14, 2019 0200 MST

Avg. wind dir: 358

Avg. wind spd: 9.1 mph

Peak gust: 23.0 mph

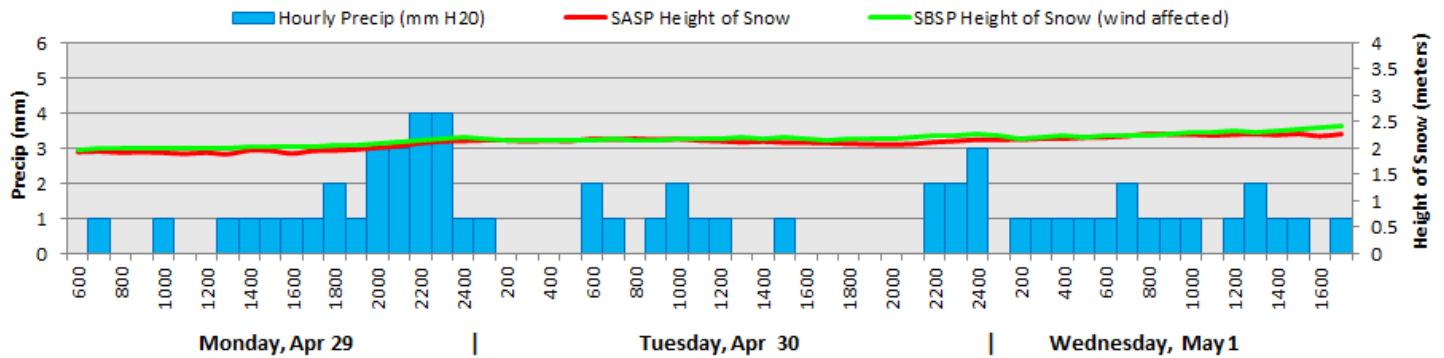




# 2018/2019 WINTER STORM #24

2018-19 Winter Storm #24: April 29-May 1, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 0500 – 0600 hrs MST Monday, April 29, 2019 (DOY 119)

Storm precipitation ended: 1700 hrs MST Wednesday, May 1, 2019 (DOY 121)

Storm duration = 60 hrs

Storm total water content at SASP = 58 mm (2.3 inches)

Mean precip intensity: 0.97 mm/hr

Max precip intensity: 4 mm/hour on multiple occasions

Max gain in snow depth at SASP = 34 cm (13.4 inches)

Max gain in snow depth at SBSP (wind affected) = 46.5 cm (18.3 inches)

Peak gust at PTSP at: 2254 on Tuesday, April 30, 2019 (DOY 120)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 60

No. of missing hours: 0

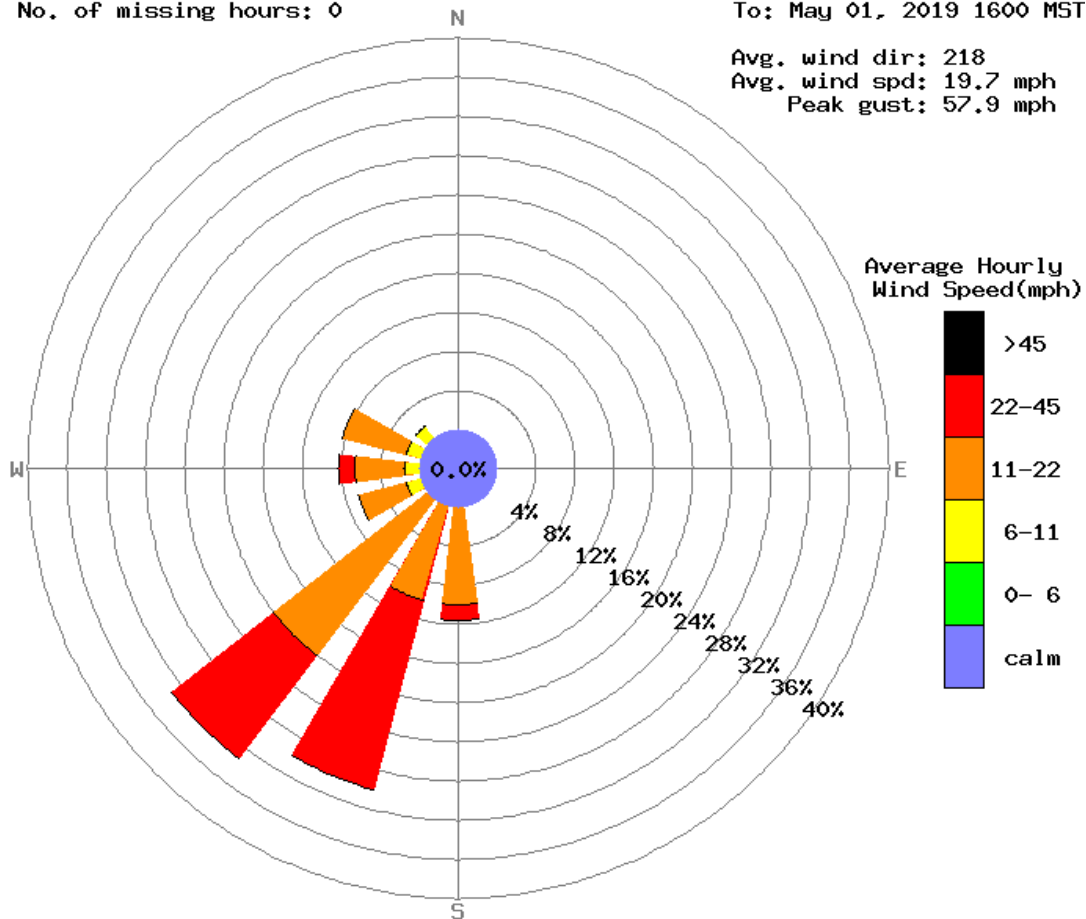
From hour ending: Apr 29, 2019 0500 MST

To: May 01, 2019 1600 MST

Avg. wind dir: 218

Avg. wind spd: 19.7 mph

Peak gust: 57.9 mph

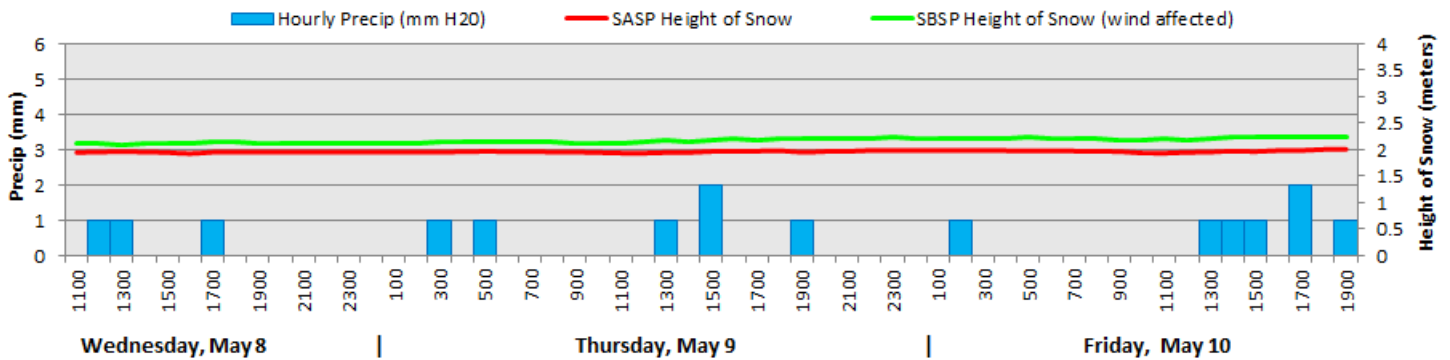




# 2018/2019 WINTER STORM #25

2018-19 Winter Storm #25: May 8-May 10, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1000 – 1100 hrs MST Wednesday, May 8, 2019 (DOY 128)

Storm precipitation ended: 0100 hrs MST Friday, May 10, 2019 (DOY 130)

Storm duration = 57 hrs

Storm total water content at SASP = 16 mm (0.6 inches)

Mean precip intensity: 0.28 mm/hr

Max precip intensity: 2 mm/hour on multiple occasions

Max gain in snow depth at SASP = 6.1 cm (2.4 inches)

Max gain in snow depth at SBSP (wind affected) = 9.7 cm (3.8 inches)

Peak gust at PTSP at: 1322 on Thursday, May 8, 2019 (DOY 129)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 57

No. of missing hours: 0

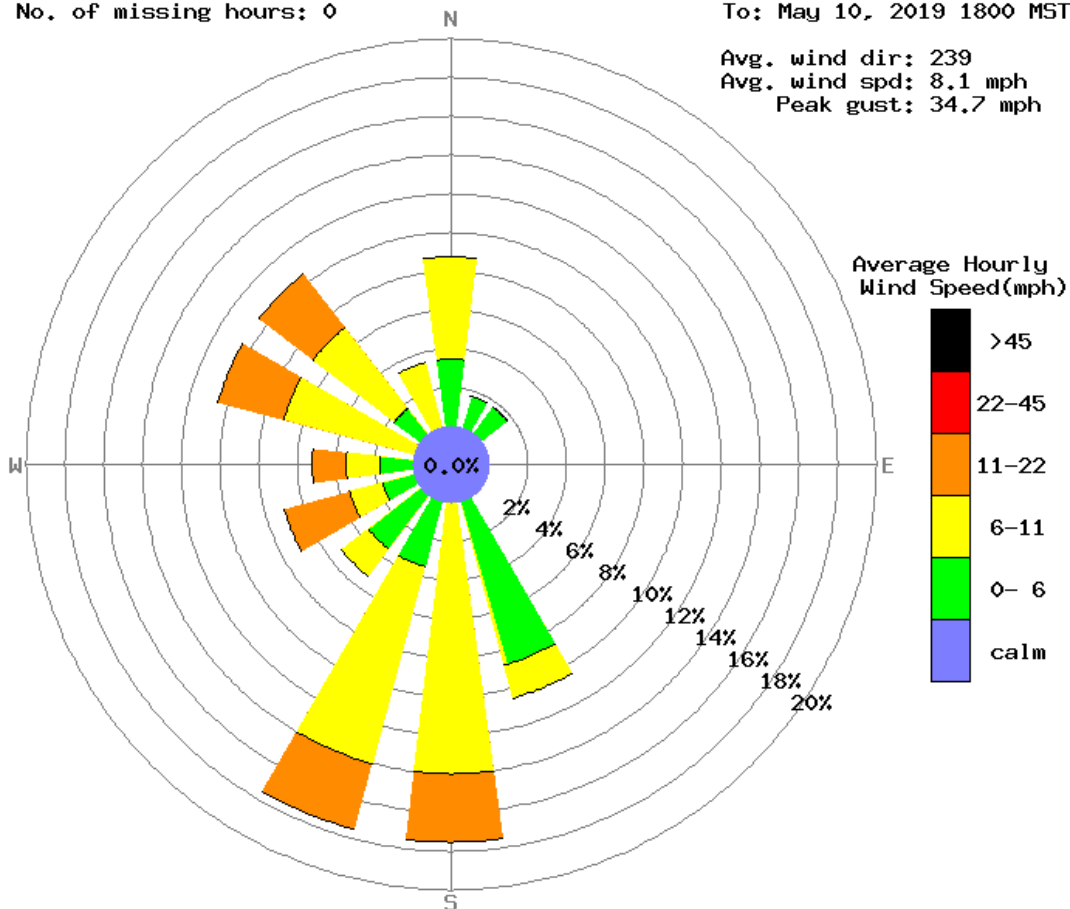
From hour ending: May 08, 2019 1000 MST

To: May 10, 2019 1800 MST

Avg. wind dir: 239

Avg. wind spd: 8.1 mph

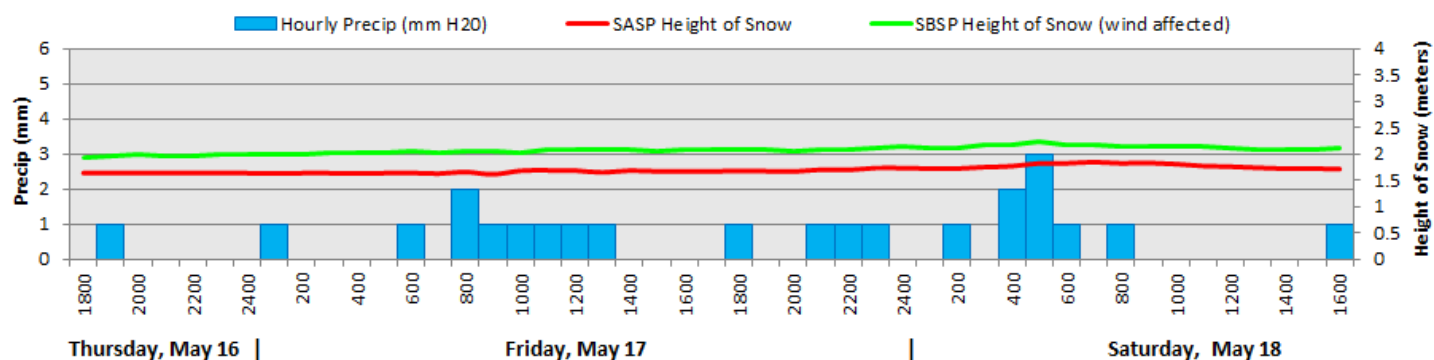
Peak gust: 34.7 mph



# 2018/2019 WINTER STORM #26

2018-19 Winter Storm #26: May 16-May 18, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1800 – 1900 hrs MST Thursday, May 16, 2019 (DOY 136)

Storm precipitation ended: 1600 hrs MST Saturday, May 18, 2019 (DOY 138)

Storm duration = 47 hrs

Storm total water content at SASP = 23 mm (0.9 inches)

Mean precip intensity: 0.49 mm/hr

Max precip intensity: 3 mm/hour on Saturday, May 18, at 0500

Max gain in snow depth at SASP = 7.4 cm (2.9 inches)

Max gain in snow depth at SBSP (wind affected) = 15.5 cm (6.1 inches)

Peak gust at PTSP at: 1708 on Thursday, May 16, 2019 (DOY 136)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 47

No. of missing hours: 0

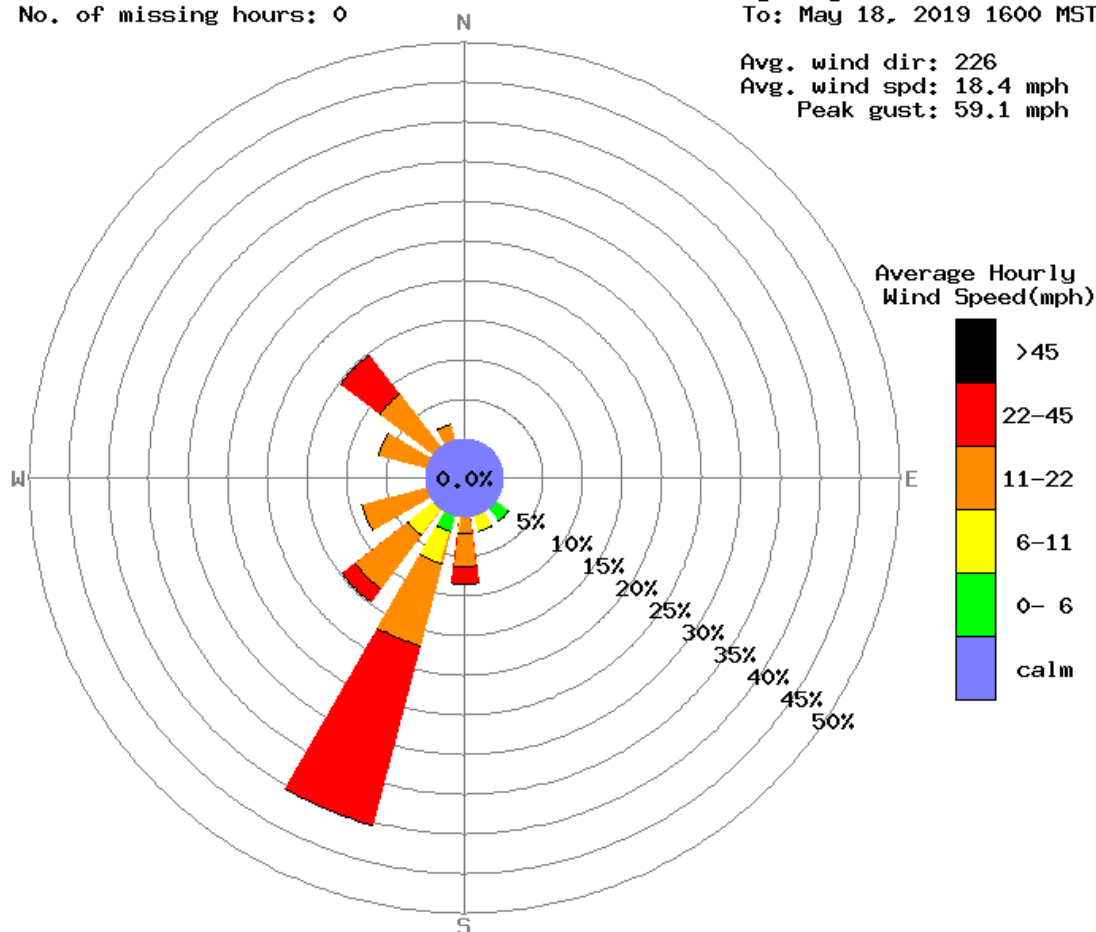
From hour ending: May 16, 2019 1800 MST

To: May 18, 2019 1600 MST

Avg. wind dir: 226

Avg. wind spd: 18.4 mph

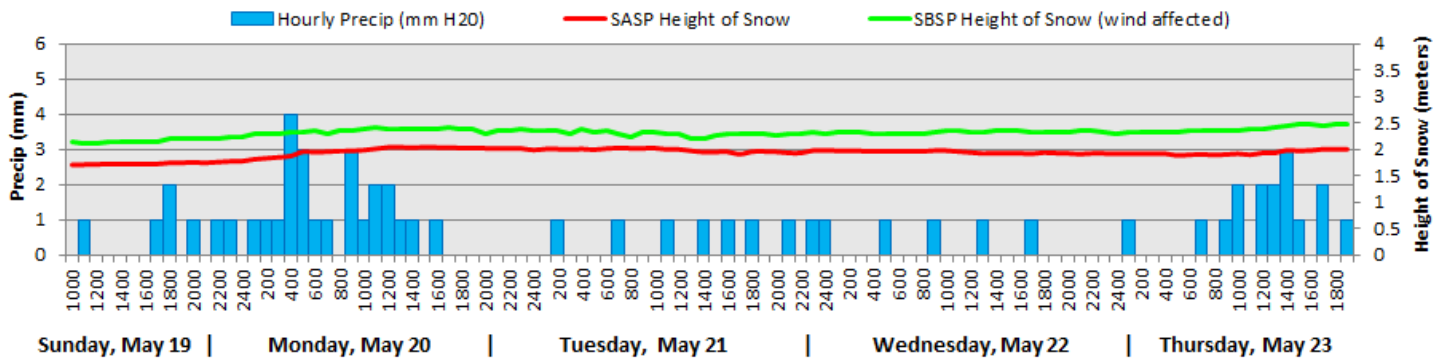
Peak gust: 59.1 mph



# 2018/2019 WINTER STORM #27

2018-19 Winter Storm #27: May 19-May 23, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1000 – 1100 hrs MST Wednesday, May 19, 2019 (DOY 139)

Storm precipitation ended: 1900 hrs MST Sunday, May 23, 2019 (DOY 143)

Storm duration = 106 hrs

Storm total water content at SASP = 59 mm (2.3 inches)

Mean precip intensity: 0.56 mm/hr

Max precip intensity: 4 mm/hour on Thursday, May 20, at 0400

Max gain in snow depth at SASP = 29.4 cm (11.6 inches)

Max gain in snow depth at SBSP (wind affected) = 34 cm (13.4 inches)

Peak gust at PTSP at: 1244 on Thursday, May 23, 2019 (DOY 143)

## Storm Wind Rose (Putney Study Plot data)

CSAS Putney Study Plot 12,323 ft.

No. of hours: 106

No. of missing hours: 0

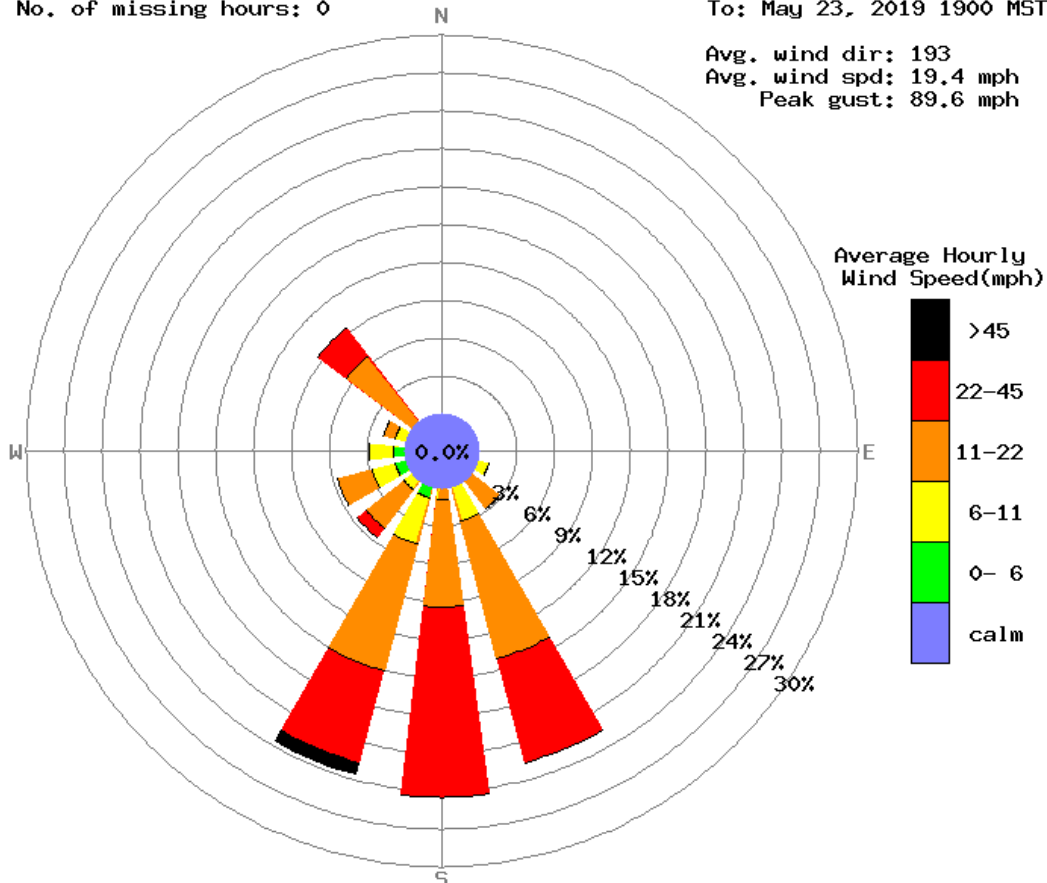
From hour ending: May 19, 2019 1000 MST

To: May 23, 2019 1900 MST

Avg. wind dir: 193

Avg. wind spd: 19.4 mph

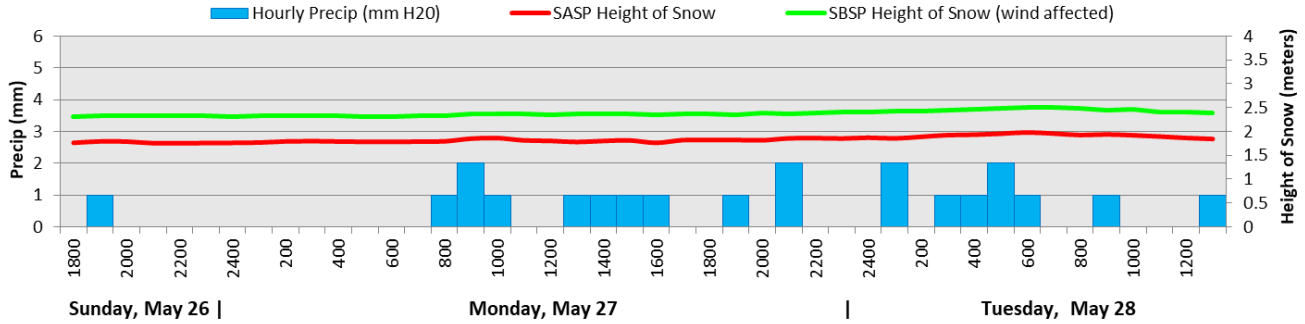
Peak gust: 89.6 mph



# 2018/2019 WINTER STORM #28

2018-19 Winter Storm #28: May 26-May 28, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

**Storm precip began** between 1800 – 1900 hrs MST Sunday, May 26, 2019 (DOY 146)

**Storm precipitation ended:** 1300 hrs MST Tuesday, May 28, 2019 (DOY 148)

**Storm duration** = 44 hrs

**Storm total water content at SASP** = 21 mm (0.8 inches)

**Mean precip intensity:** 0.48 mm/hour

**Max precip intensity:** 2 mm/hour on multiple occasions on multiple days

**Max gain in snow depth at SASP** = 8.1 cm (3.2 inches)

**Max gain in snow depth at SBSP** (wind affected) = 8.0 cm (3.1 inches)

**Peak gust at PTSP at:** 0315 hrs MST Monday, May 27, 2019 (DOY 147)

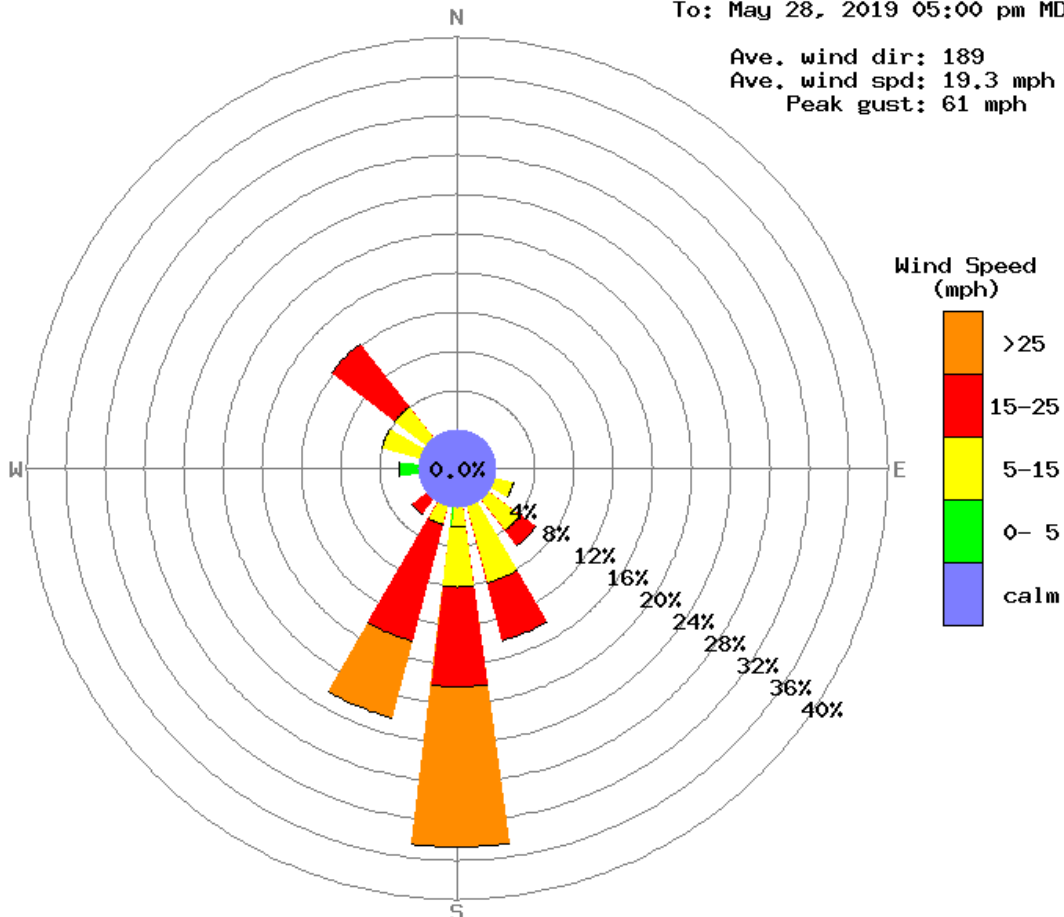
## Storm Wind Rose (Putney Study Plot data):

Putney (CSAS) 12327 ft

No. of observations: 49

From: May 26, 2019 05:00 pm MDT  
To: May 28, 2019 05:00 pm MDT

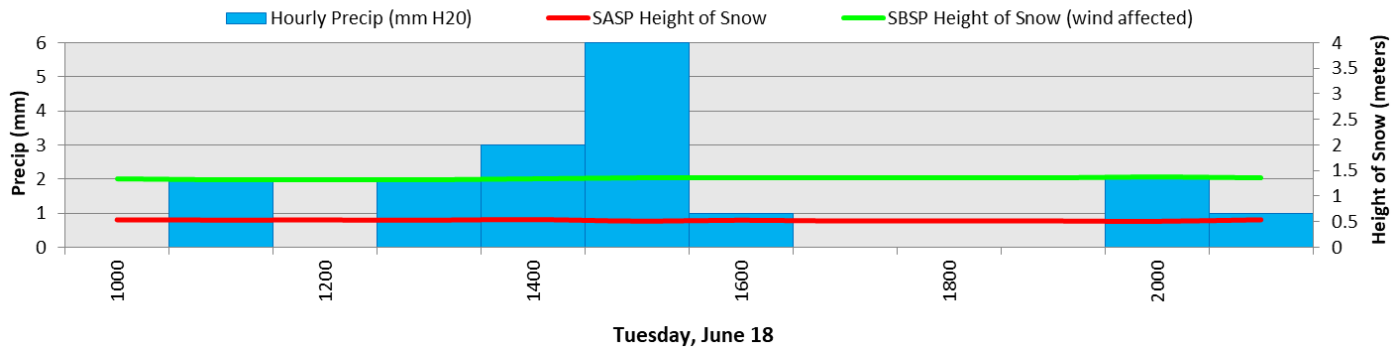
Ave. wind dir: 189  
Ave. wind spd: 19.3 mph  
Peak gust: 61 mph



# 2018/2019 WINTER STORM #29

2018-19 Winter Storm #29: June 18, 2019

Senator Beck Basin Study Area, at Red Mountain Pass, CO



## Storm Summary Statistics:

Storm precip began between 1000 – 1100 hrs MST Tuesday, June 18, 2019 (DOY 169)

Storm precipitation ended: 2100 hrs MST Tuesday, June 18, 2019 (DOY 169)

Storm duration = 12 hrs

Storm total water content at SASP = 17 mm (0.7 inches)

Mean precip intensity: 1.42 mm/hour

Max precip intensity: 6 mm/hour at 1500 hrs MST Tuesday, June 18, 2019 (DOY 169)

Max gain in snow depth at SASP = 0 cm (0 inches)

Max gain in snow depth at SBSP (wind affected) = 3.8 cm (1.5 inches)

Peak gust at PTSP at: 1958 hrs MST Tuesday, June 18, 2019 (DOY 169)

## Storm Wind Rose (Putney Study Plot data):

Putney (CSAS) 12327 ft

No. of observations: 43

From: Jun 18, 2019 09:00 am MDT  
To: Jun 20, 2019 09:00 am MDT

Ave. wind dir: 294  
Ave. wind spd: 15.8 mph  
Peak gust: 43 mph

