

METADATA

Wind Rose Datasets and Scripts

Putney, Senator Beck and Swamp Angel Study Plots

Senator Beck Basin Study Area (SBBSA), San Juan Mountains

- 1) Detailed site descriptions and season-specific Metadata
 - a) See <http://snowstudies.org/data1.html>
- 2) Scripts and Datasets
 - a) Original script was provided by John Snook, Colorado Avalanche Information Center. Additional consulting also provided by John Snook.
 - b) The **past dataset** for each study plot is a comma delimited file containing 1hr arrays beginning as early as fall 2003 (varies for each study plot) through September 30, 2011. These datasets will be extended in October of each year.
 - i) SBSP dataset begins October 30, 2003
 - ii) SASP dataset begins November 9 , 2003
 - iii) PTSP dataset begins October 5, 2004
 - c) The **current dataset** spans Oct 1, 2011 through the most recent hour inclusively. The current datasets contain 1hr, 3hr, 12hr (SASP and SBSP only), and 24hr arrays. The php script which generates the wind roses only reads the 1hr arrays.
 - d) Scripts use “GET” method to obtain date, hour, hourly average wind speed, hourly average wind direction, and peak gust speed from comma delimited text files.
 - e) Scripts output to a png file.
 - f) Scripts and corresponding text files are named:
 - i) PTSPwindrose_past.php, PTSP_1hr.csv
 - ii) PTSPwindrose_current.php, PTSP1112.dat [to be updated each water year]
 - iii) SBSPwindrose_past.php, SBSP_1hr.csv
 - iv) SBSPwindrose_current.php, SBSP1112.dat [to be updated each water year]
 - v) SASPwindrose_past.php, SASP_1hr.csv
 - vi) SASPwindrose_current.php, SASP1112.dat [to be updated each water year]
 - g) An html form is used as a user interface to specify dataset, start date & hour, # of hours after start, and unit of measurement: <http://snowstudies.org/wind>
- 3) Data Usage
 - a) The start hour data is the average of data collected from the previous hour (e.g. 1200 start hour data contains average wind speed, direction and peak gust from 1101 – 1159).
 - b) Wind rose script uses resultant hourly wind averages except when only scalar averages are available. The following details when scalar averages have been used:
 - i) SASP, November 8, 2003, 1400 hrs through January 25, 2005, 1100 hrs
 - ii) SBSP, October 5 through October 16, 2004
 - iii) SBSP, October 18, 0100 hrs through January 20, 2005, 1100 hrs
 - iv) PTSP, October 5, 0100 hrs through December 11, 2004, 1100 hrs

- c) Upper Wind data are used for SASP and SBSP study plots except when Upper Wind data are not available. The following details when lower wind data have been used:
 - i) SASP, Sept 19 – 24, 2005
 - ii) SASP, Sept 25 – 30, 2005
 - iii) SASP, Feb 17 – June 20, 2007 – Lower wind is used for Peak gust and time, but Upper wind data was available for hourly average speed and direction.
 - iv) SASP, Jan 20, 2008, 2300 hours

- 4) Missing data
 - a) Swamp Angel Study Plot
 - i) Missing hours are not counted correctly in the SASP “past” dataset when the entire dataset is used to generate a wind rose. We will attempt to correct this malfunction.

 - ii) Wind data is missing for several spans of time, totaling 392 hours for entire “past” dataset. Most spans of missing wind data are for a day or less, but two spans are for over 100 hours:
 - (1) Sept 20, 2006, 0900 hrs – Sept 25, 2006, 1000 hrs. (122 hours of missing data)
 - (2) July 18, 2007, 1200 hrs – July 26, 2007, 2400 hrs. (205 hours of missing data)

 - b) Senator Beck Study Plot
 - i) Summer 2004 (2,543 hours missing)
 - ii) October 17, 2004 (24 hours missing)
 - iii) October 23, 2006, 0700 hrs – October 27, 1000 hrs (100 hours missing)
 - iv) March 31, 2010, 0900 hrs – April 8, 2010, 1300 hrs (197 hours missing)

 - c) Putney Study Plot
 - i) Summer data were not collected until 2007.
 - ii) May 29, 2005 through October 7, 2005 (3,168 hours missing)
 - iii) June 6, 2006 through September 18, 2006 (2,521 hours missing)
 - iv) 4 hours total missing between Fall 2006 – February 2012.