SWEet! Oregon's Snowpack and Water Supply



Where do YOU get your water? What are the characteristics of Oregon's snowpack and how have they changed over time? In this activity we will be looking at current and past snow data and the affects it can have on our local economy.

SNOTEL-

The Natural Resources Conservation Service (NRCS) operates and maintains an automated system (SNOwpack TELemetry or SNOTEL) designed to collect snowpack and related climatic data in the Western United States and Alaska and to develop accurate and reliable water supply forecasts. For over 30 years SNOTEL sites in Oregon and the west have collected data on snow depth and SWE (snow water equivalent). We will use yearly SWE data to look for changes and to relate our snowpack to Oregon's Economy.

- A. Using the data in the table, graph the SWE for your site over time (1980-2012).
- B. Analyze your results:
- 1-What trend do you see on the graph?
- 2-Compare your graph with another group and discuss your observations.
- 3-After your discussions what do you think the possible effects will be of less snow in Oregon? Who/What could be effected? How might they be effected?
- 4-What questions do you still have? List 1+.

Maximum Yearly SWE (measured in inches)

5610 ft. 4790 ft. 3740 ft. Water Year 1980 30.1 10.1 1981 17.8 4.3 1982 56.3 61.8 37.1 1983 50.5 31.3 17.8 1984 63.5 46.6 18.3 1985 48.1 48.8 32.7 1986 42.8 39.4 18.5 1987 37.8 38.8 18.5 1988 33.9 37.4 15 1989 58 56 29.6 1990 30.1 31.5 18.7 1991 35 31.5 10.4 1992 26 19.8 4.7 1993 59.8 48.1 25.3 1994 25.1 29.2 12.8 1995 44.8 42.6 18.8 1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 20		Summit Lake	Hogg Pass	Santiam Jct.
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1987 37.8 38.8 18.5 1988 33.9 37.4 15 1989 58 56 29.6 1990 30.1 31.5 18.7 1991 35 31.5 10.4 1992 26 19.8 4.7 1993 59.8 48.1 25.3 1994 25.1 29.2 12.8 1995 44.8 42.6 18.8 1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2008 55.3 50.3	1985	48.1	48.8	32.7
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1989 58 56 29.6 1990 30.1 31.5 18.7 1991 35 31.5 10.4 1992 26 19.8 4.7 1993 59.8 48.1 25.3 1994 25.1 29.2 12.8 1995 44.8 42.6 18.8 1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9	1987	37.8	38.8	18.5
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1991 35 31.5 10.4 1992 26 19.8 4.7 1993 59.8 48.1 25.3 1994 25.1 29.2 12.8 1995 44.8 42.6 18.8 1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31	1989	58	56	29.6
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1993 59.8 48.1 25.3 1994 25.1 29.2 12.8 1995 44.8 42.6 18.8 1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1991	35	31.5	10.4
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1995 44.8 42.6 18.8 1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1993	59.8	48.1	25.3
1996 39.4 48.8 14.1 1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1994	25.1	29.2	12.8
1997 49.8 52.1 21.7 1998 39.4 37.2 13.2 1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1995	44.8	42.6	18.8
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1999 69.7 68.5 37.2 2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1997	49.8	52.1	21.7
2000 40.7 45.5 20.7 2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1998	39.4	37.2	13.2
2001 27.1 24 8.5 2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	1999	69.7	68.5	37.2
2002 48.6 54 26.2 2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2000	40.7	45.5	20.7
2003 35.4 27 7.2 2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2001	27.1	24	8.5
2004 49.6 32.5 17.8 2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2002	48.6	54	26.2
2005 29.5 10.6 4.1 2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2003	35.4	27	7.2
2006 53.1 40.2 19.7 2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2004	49.6	32.5	17.8
2007 42 22.4 12.7 2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2005	29.5	10.6	4.1
2008 55.3 50.3 38.4 2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2006	53.1	40.2	19.7
2009 43.9 29.9 21.1 2010 42.1 25 5.4 2011 54.5 31 24.7	2007	42	22.4	12.7
2010 42.1 25 5.4 2011 54.5 31 24.7	2008	55.3	50.3	38.4
2011 54.5 31 24.7	2009	43.9	29.9	21.1
2011	2010	42.1	25	5.4
2012 43 33.2 20.1	2011	54.5	31	24.7
	2012	43	33.2	20.1

Data are from the National Resources Conservation Service (NRCS) SNOTEL website at: http:// http://www.wcc.nrcs.usda.gov