

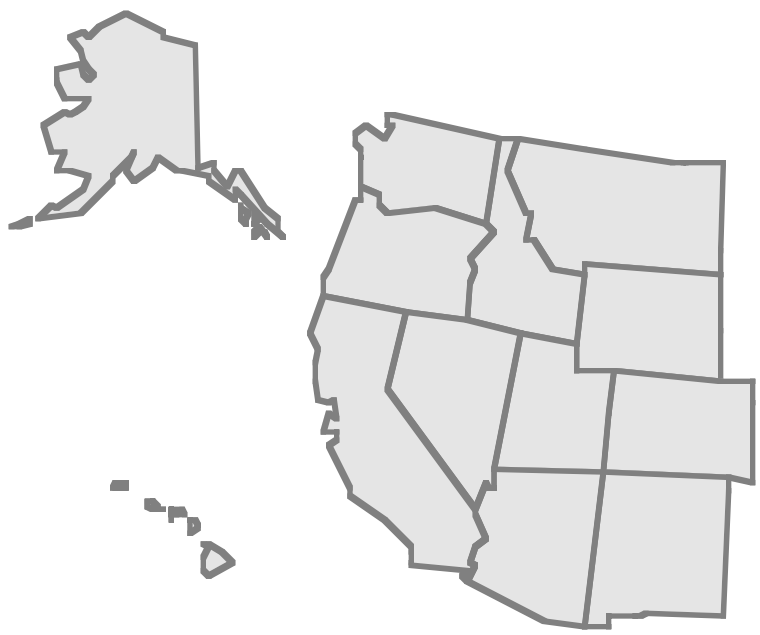
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# Nevada RAWS Station Climatology

## Project Report *March 1997*

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*Prepared by  
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## Forward

This report summarizes a component of the Cooperative Program for Operational Meteorology, Education, and Training (COMET) project “Integrating Weather and Climate Variables for Improving Outlooks and Forecasts During the Nevada Fire Season”. Results of this project can be found at the Program for Climate, Ecosystem and Fire Applications web site ([www.dri.edu/Programs/CEFA](http://www.dri.edu/Programs/CEFA)) or through the Western Regional Climate Center homepage ([www.wrcc.dri.edu](http://www.wrcc.dri.edu)). Correspondence and web address information have been updated in the PDF version of this report.

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## Nevada RAWS Station Climatology

COMET Subaward No. UCAR S96-73662  
Cooperative Agreement No. NA57GP0576  
Integrating Weather and Climate for Improving Outlooks and Forecasts  
During the Nevada Fire Season

by

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March 1997

This product, developed for the Reno National Weather Service Forecast Office (NWSFO), is based upon results obtained from the COMET Partners project “Integrating Weather and Climate for Improving Outlooks and Forecasts During the Nevada Fire Season”. It includes the climatology of Remote Automatic Weather Station (RAWS; e.g., Redmond, 1991) historical data for the period of record through 1995 at 131 stations located within Nevada and approximately one degree spatially surrounding the state. This area covers all of the Reno NWSFO forecast zones and adjacent area. The climatology for temperature, humidity, wind speed, and wind direction is summarized in map form for each hour of each month.

The data were extracted from the Western Regional Climate Center’s (WRCC) RAWS database. Sites within Nevada and surrounding vicinity were selected using the station’s NESS (National Environmental Satellite Service) identification number (ID). Unfortunately, the NESS ID is not always unique for each station during its operational period. It was found that in several cases the NESS ID was different depending upon the particular time period the station was in use. Thus, station ID’s were checked manually to establish the spatial location, and to determine whether or not two or more stations were actually one site, but with different ID numbers. For all station locations in the attached graphical displays and index table, the most recent record of latitude, longitude, and elevation was used.

Once the sites were identified, a low-level quality control (QC) was applied to the data. Two types of problems were found in the original data. First, March 1995 was intermittently contaminated with non-numeric characters due to electronic transmission problems. If it was possible to preserve the data of interest for the hour with a known problem, then the bad characters were removed and valid data values retained. If it was not possible to preserve the data for the hour while correcting for the non-numeric

characters, all of the station's values for that particular hour were deleted. Overall this only amounted to a less than 1% removal of bad data. The second QC check included examination of values exceeding a predetermined set of ranges; temperature -20°F to 120°F, humidity 0 to 100%, wind speed 0 to 99 mph, and wind direction 0 to 360 degrees. Values found to exceed these ranges were set to missing. Only a very small portion of the values were flagged in this manner.

Mean hourly values were calculated by taking the sum of all values for a particular variable (i.e., temperature, humidity, wind speed, and wind direction) for each hour of each month, then dividing by the total number of hours. For a station to be included in the analysis, the period of record had to exceed one year.

Mean temperature, humidity, and wind speed values are presented in contour plot form. Shaded contours highlight regions of equal value, and labeled contours are overlaid for shading identification. A Cressman analysis scheme (Cressman, 1959) was applied to convert the irregularly spaced data into a regular grid. Wind direction is shown as equal length vectors graphically representing the mean direction for that hour. All graphical displays were made using the Grid Analysis and Display System (GrADS) from the University of Maryland's Center for Ocean-Land-Atmosphere Studies.

It is important to be aware that the dataset as a whole lacks homogeneity - in particular, the number of observation hours vary by station. For example, a station might contain hourly data for the two-year period 1985-86, and a nearby station for the five-year period 1990-1994. In the graphical summaries these are combined as if all the stations have identical periods of record. For some types of analyses this might have to be accounted for. However, all of the plots show reasonable spatial consistency, and a good qualitative assessment of RAWS climatology can be achieved.

Included with the climatology figures is a station location map, and a station index. RAWS stations are denoted as black dots with a nearby index number. This number may be used with the station index table to obtain specific information regarding the site. The table includes the site name, most recent latitude, longitude, and elevation, the station start and end dates, and the number of missing months. An ending date of 12/95 only reflects the last month used in this project, not necessarily the closing of a station.

Cressman, G., 1959: An operational analysis system. *Mon. Wea. Rev.*, **87**, 367-374.

Redmond, K., 1991: A User's Guide to RAWS Products, July 1991. WRCC Report #91-02, Western Regional Climate Center, Desert Research Institute, Reno, NV, 28 pp.

Index	Site Name	Latitude	Longitude	Elevation(ft)	Start Date	End Date	Months Missing
1	alliridge	39.73	-115.65	6560	Jul-89	Dec-95	
2	antelake	41.68	-116.76	5460	Jun-90	Dec-95	
3	ashvy	41.05	-120.69	5100	Oct-91	Dec-95	
4	badgerspgs	37.15	-113.95	3990	Jun-91	Dec-95	
5	bailey	40.44	-116.17	5450	Sep-86	Dec-95	
6	bakersfld	37.61	-120.15	4680	Oct-93	Nov-95	
7	baldmt	38.90	-120.68	3150	Jan-89	Feb-91	
					Jun-91	Jan-95	3
					Apr-95	Dec-95	2
8	barrelspgs	41.91	-119.94	5712	Oct-92	Dec-95	
9	basque	42.25	-118.98	5080	Aug-90	Dec-95	
10	beacon	40.56	-116.76	4800	Oct-89	Dec-95	
11	bearpk	35.88	-118.05	8228	Oct-91	Feb-95	
					May-95	Dec-95	2
12	beaver	38.49	-120.32	5000	Mar-92	Jan-95	
					May-95	Dec-95	3
13	berger	42.42	-114.72	4490	Nov-86	Dec-95	
14	bigbend	35.12	-114.71	1000	Nov-86	Apr-95	
					Jun-95	Dec-95	1
15	bluedoor	41.05	-120.34	5615	Oct-91	Dec-95	
16	bluewing	40.33	-119.09	4570	Jul-86	Dec-95	
17	bogard	40.25	-121.08	5650	Jul-86	Apr-87	
					Jul-92	Jan-93	62
					Apr-93	Jan-95	2
					Apr-95	Dec-95	2
18	borax	42.33	-118.60	4081	Jul-90	Dec-95	
19	braceflt	42.35	-116.69	4900	May-90	Dec-95	
20	brawley	38.27	-118.86	8080	May-87	Dec-95	
21	brimstone	38.31	-113.38	5620	Sep-87	Dec-95	
22	buckhorn	38.22	-114.29	7050	Jul-89	Dec-95	
23	buffalock	40.58	-119.79	2794	Oct-92	Dec-95	
24	bullflt	40.48	-120.11	4395	Oct-91	Dec-91	
					Mar-92	Aug-92	2
					Oct-92	Dec-95	6
25	bullspg	42.08	-114.48	5700	Jun-90	Sep-90	
					Jan-91	Sep-91	3
					Jan-92	Sep-92	3
					Jan-93	Sep-93	3
					Jan-94	Sep-94	3
					Jan-95	Sep-95	3
26	burmaspg	41.19	-117.40	4550	Aug-89	Dec-95	
27	caliente	37.61	-114.53	4380	Jun-92	Feb-95	
28	calimus	42.62	-121.55	6622	Oct-89	Nov-93	
					May-94	Dec-94	5
					May-95	Dec-95	4

					Mar-93	Dec-95	2
30	cattlecamp	38.90	-114.81	7300	Feb-94	Dec-95	
31	cedarflat	38.26	-114.54	6000	Aug-85	Aug-87	
					Mar-88	Aug-88	6
					Mar-89	Aug-89	6
32	cedarpass	39.75	-114.16	7100	Jul-89	Apr-94	
33	chester	40.28	-121.24	4525	Oct-89	Mar-90	
					May-90	Dec-95	1
34	coffee	42.55	-120.62	5250	May-85	Feb-86	
					Apr-86	Dec-95	1
35	coilsck	39.83	-116.49	6800	Oct-89	Dec-95	
36	combscan	39.38	-116.17	6590	Sep-86	Dec-95	
37	coyotecan	40.49	-118.11	5050	Jul-89	Dec-95	
38	coyotewash	38.32	-114.76	5720	Sep-86	Dec-95	
39	craneflat	37.75	-119.80	5957	Nov-91	Dec-95	
40	crestview	37.74	-118.98	7600	Nov-93	Dec-95	
41	currantck	38.77	-115.42	5580	Jul-89	Dec-95	
42	deadcmlmt	39.26	-118.96	4490	Mar-87	Nov-95	
43	desatoya	39.30	-117.58	6200	Sep-86	Dec-95	
44	desertspgs	39.67	-119.77	5280	Jul-86	Oct-86	
					Jun-92	Dec-95	67
45	devilspost	37.63	-119.09	7560	Nov-93	Dec-93	
					Jun-94	Dec-95	5
46	doyle	40.02	-120.11	4267	Jun-87	Sep-87	
					Jun-89	Oct-89	20
					Jan-90	Dec-95	2
47	drycnyn	41.49	-119.12	4900	Jul-86	Dec-95	
48	fishfin	42.47	-119.18	4900	Oct-86	Dec-95	
49	fishspgs	38.94	-119.65	5120	Jul-86	Oct-86	
					Jun-87	Sep-87	7
					Jun-88	Sep-88	8
					Jul-89	Aug-89	9
					Jan-90	Mar-90	4
					Jul-90	Dec-95	5
50	foxmt	41.01	-119.56	6890	Jul-89	Dec-89	
					Mar-90	Aug-90	2
					Oct-90	Dec-90	6
					Mar-91	Aug-91	2
					Oct-91	Dec-95	6
51	gardenvy	38.18	-115.41	5230	Oct-90	Jan-94	
					Mar-94	Dec-95	1
52	gerber	42.21	-121.14	4920	Jun-86	Dec-95	
53	goodwin	34.75	-113.30	4200	Jan-85	Mar-85	
					May-85	Jun-95	3
54	gooseck	42.09	-113.90	5660	Jun-90	Dec-95	
55	grassynt	42.63	-117.42	4500	Feb-85	Dec-95	
56	grassyrdge	42.71	-118.15	4510	Jan-88	Dec-95	
57	hatcreek	40.70	-121.37	4000	Sep-91	Oct-91	
					Apr-94	Dec-94	29

					Apr-95	Aug-95	3
58	hellhole	38.05	-120.42	5240	Jun-89	Nov-91	
					Apr-92	Apr-92	4
					Jun-92	Dec-93	1
					May-95	Aug-95	16
59	horsebutte	42.42	-115.23	5000	Feb-85	Dec-95	
60	horselake	40.63	-120.50	5000	Oct-91	Dec-95	
61	horsethief	35.77	-115.91	5100	Oct-91	Dec-95	
62	hoytck	42.96	-121.47	5500	Jul-92	Dec-95	
63	huntermt	36.56	-117.47	6880	Feb-89	Jun-93	
					Sep-93	Dec-95	2
64	immigwash	37.92	-114.16	6230	Jun-90	Dec-95	
65	jensenspg	38.03	-113.52	5744	Jun-83	Aug-83	
					Mar-84	Apr-84	6
					Jan-85	Dec-95	8
66	juniperck	41.33	-120.47	4372	Apr-88	Dec-95	
67	juniperspgs	41.08	-119.78	5348	Oct-91	Dec-95	
68	kanespgs	37.25	-114.71	4590	Nov-86	Dec-95	
69	ladderbtte	40.82	-121.32	5700	Apr-88	Dec-88	
					Apr-89	Dec-92	3
					Apr-93	Jan-95	3
					Apr-95	Dec-95	2
70	longhllw	41.55	-116.23	5820	Sep-86	Sep-90	
					Jan-91	Sep-91	3
					Jan-92	Sep-92	3
					Jan-93	Sep-93	3
					Jan-94	Sep-94	3
					Jan-95	Sep-95	3
71	manzanita	40.54	-121.56	5800	Jun-90	Nov-90	
					Jan-91	Aug-91	1
					Oct-93	Nov-94	25
					Apr-95	Dec-95	4
72	mariposa	37.51	-119.60	6400	Sep-88	Nov-88	
					Sep-90	Dec-95	21
73	mcgilljctn	39.36	-114.62	6270	Oct-86	Dec-95	
74	mercedrvr	37.65	-120.09	2600	Oct-91	Dec-95	
75	midhlls	35.17	-115.42	5512	Oct-91	Dec-95	
76	mojavervr	35.06	-116.08	950	Mar-88	Sep-88	
					Jan-89	Sep-89	3
					Jan-90	Jul-95	3
					Sep-95	Dec-95	1
77	molburg	42.05	-113.17	6400	Feb-85	Apr-87	
					Jun-87	Sep-88	1
					Nov-88	Apr-89	1
					Jun-89	Mar-94	1
					Jul-94	Oct-94	3
					Jul-95	Dec-95	8
78	moreyck	41.46	-117.63	5500	Jul-86	Dec-95	

79	mossbasin	35.03	-113.89	5920	Jun-92	Jul-94	
80	mtlogan	36.35	-113.20	7200	Feb-85	Sep-94	
81	mudflat	42.60	-116.55	5707	Aug-86	Dec-95	
82	nixonflts	36.39	-113.15	6500	May-92	Dec-95	
83	nofork	37.37	-119.41	5700	Apr-92	Sep-92	
					Jun-93	Nov-93	8
					May-94	Oct-94	5
84	norspgvy	39.91	-114.54	6500	Jun-87	Aug-90	
85	olafknlls	36.50	-113.82	2900	May-85	Sep-94	
86	opalmt	35.15	-117.18	3240	Oct-91	Mar-95	
					May-95	Dec-95	1
87	orientwash	37.24	-117.50	4100	Oct-86	Dec-95	
88	owenscamp	38.73	-120.24	5200	Sep-89	Jan-92	
					Apr-92	Jan-95	2
					May-95	Dec-95	3
89	pacificran	38.76	-120.53	4000	Jun-90	Aug-90	
					Oct-90	Dec-90	3
					Aug-91	Feb-92	7
					Apr-92	May-92	1
					Jul-92	Sep-92	2
90	pahrump	36.17	-116.11	2600	Nov-86	Dec-95	
91	palisade	40.62	-116.23	6205	Jun-90	Dec-95	
92	panamint	36.12	-117.08	6880	Mar-88	Dec-95	
93	pancake	38.30	-116.19	5200	Aug-86	Dec-95	
94	phill	42.83	-118.94	4860	Aug-90	Dec-95	
95	pikeco	39.47	-121.20	3714	Mar-94	Dec-95	
96	plumas	40.10	-120.32	5800	Mar-90	Dec-92	
					Mar-93	May-93	2
					Sep-93	Nov-94	5
					Apr-95	Dec-95	4
97	poleck	42.07	-115.79	5660	May-90	Dec-95	
98	poorjug	42.93	-120.11	4600	Jul-89	Oct-89	
					Feb-90	Dec-95	3
99	raftriv	42.55	-113.35	4400	Nov-86	Dec-95	
100	rattlesnake	42.59	-117.74	4160	Oct-86	Dec-95	
101	redbutte	39.98	-117.32	5050	Oct-89	Dec-95	
102	reddome	41.52	-113.44	4720	Sep-87	Dec-95	
103	redpt	41.48	-114.83	6029	Sep-86	Dec-95	
104	redrock	36.14	-115.43	3760	Jun-90	Sep-91	
					Jan-92	Sep-92	3
					Jan-93	Sep-93	3
					Jan-94	Sep-94	3
					Jan-95	Sep-95	3
105	redspgck	41.64	-114.44	5380	Jun-90	Dec-95	
106	rockck	42.55	-119.66	5640	May-86	Dec-95	
107	roystonhls	38.26	-117.52	5100	Sep-86	Dec-95	
108	siard	40.39	-117.62	4600	Jul-86	Dec-95	
109	smithspg	39.48	-114.99	7300	Jan-85	Mar-89	
110	spggulch	40.59	-114.20	5470	Jun-90	Dec-95	



111	sprucemt	40.44	-114.81	6100	Sep-86	Dec-95	
112	squawspgs	35.37	-117.60	3620	Oct-91	Dec-95	
113	strawberry	42.18	-120.37	5590	Feb-85	Feb-85	
					May-85	Feb-86	2
					Apr-86	Nov-86	1
					Feb-87	Jan-93	2
					Jul-93	Dec-95	5
114	sugarloaf	36.73	-118.67	8120	Jul-92	Jan-93	
					Jul-93	Oct-93	5
					Jun-94	Oct-94	7
					Jul-95	Aug-95	8
115	summit	42.20	-120.25	6147	May-85	Dec-85	
					Feb-86	Nov-86	1
					Apr-87	Mar-89	4
					Jun-89	Oct-89	2
					May-90	Dec-92	6
					Apr-93	Jan-95	3
					Aug-95	Dec-95	6
116	texaspgs	41.80	-118.45	5600	Jul-89	Dec-95	
117	toquop	36.92	-114.20	2446	Jun-90	Dec-95	
118	trailgch	42.30	-114.32	6000	Feb-85	Sep-85	
					Jun-86	Dec-95	8
119	triangle	42.82	-116.60	5270	May-90	Dec-95	
120	tulevy	39.35	-113.37	5200	Sep-87	Dec-95	
121	tuolumne	37.87	-119.32	8800	Aug-88	Nov-88	
					Sep-90	Jan-95	21
					Jul-95	Dec-95	5
122	tweedspt	36.58	-113.72	5200	Feb-85	Mar-85	
					May-85	Jul-94	2
123	twinbutte	42.51	-115.15	3350	May-90	Dec-95	
124	vanbremmer	41.64	-121.79	4928	Jun-93	Aug-93	
					Nov-93	Dec-95	4
125	walkerpass	35.66	-118.06	5572	Oct-91	Dec-95	
126	whitecloud	39.32	-120.84	3440	Mar-93	Nov-95	
127	whitehorse	39.82	-121.45	3556	Jun-89	Oct-89	
					Apr-91	Dec-94	17
					Feb-95	Dec-95	1
128	whitereef	37.22	-113.38	4370	Sep-87	Dec-95	
129	whitewolf	37.85	-119.65	8000	Aug-88	Nov-88	
					Jun-90	Jun-90	18
					Sep-90	Jan-93	2
					Jul-93	Dec-93	5
					May-94	Oct-94	4
					Aug-95	Dec-95	9
130	xmaspas	35.27	-114.78	3450	Jun-90	Feb-95	
131	yellowjon	36.15	-113.54	6160	Jan-88	Dec-95	

