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NOAA TM NWS WR28

# NOAA Technical Memorandum NWS WR28

U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Weather Service



## Weather Extremes

ROBERT J. SCHMIDLI

Western Region

SALT LAKE CITY,  
UTAH

June 1973  
(Revised)

NOAA TECHNICAL MEMORANDA  
National Weather Service, Western Region Subseries

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- WRTM 3 Western Region Pre- and Post-FP-3 Program, December 1, 1965 to February 20, 1966. Edward D. Diemer, March 1966.
- WRTM 4 Use of Meteorological Satellite Data. March 1966.
- WRTM 5 Station Descriptions of Local Effects on Synoptic Weather Patterns. Philip Williams, Jr., April 1966 (revised November 1967, October 1969). (PB-178000)
- WRTM 6 Improvement of Forecast Wording and Format. C. L. Glenn, May 1966.
- WRTM 7 Final Report on Precipitation Probability Test Programs. Edward D. Diemer, May 1966.
- WRTM 8 Interpreting the RAREP. Herbert P. Benner, May 1966 (revised January 1967). (Out of print.)
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- WRTM 14 Application of Net Radiometer Measurements to Short-Range Fog and Stratus Forecasting at Los Angeles. Frederick Thomas, September 1966.
- WRTM 15 The Use of the Mean as an Estimate of "Normal" Precipitation in an Arid Region. Paul C. Kangieser, November 1966.
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- WRTM 17 A Digitalized Summary of Radar Echoes Within 100 Miles of Sacramento, California. J. A. Youngberg and L. B. Overaas, December 1966.
- WRTM 18 Limitations of Selected Meteorological Data. December 1966.
- WRTM 19 A Grid Method for Estimating Precipitation Amounts by Using the WSR-57 Radar. R. Granger, December 1966. (Out of print.)
- WRTM 20 Transmitting Radar Echo Locations to Local Fire Control Agencies for Lightning Fire Detection. Robert R. Peterson, March 1967. (Out of print.)
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- WRTM 22 Derivation of Radar Horizons in Mountainous Terrain. Roger G. Pappas, April 1967.
- WRTM 23 "K" Chart Applications to Thunderstorm Forecasts Over the Western United States. Richard E. Hambidge, May 1967.

ESSA Technical Memoranda, Weather Bureau Technical Memoranda (WBTM)

- WBTM 24 Historical and Climatological Study of Grinnell Glacier, Montana. Richard A. Dightman, July 1967. (PB-178071)
- WBTM 25 Verification of Operational Probability of Precipitation Forecasts, April 1966-March 1967. W. W. Dickey, October 1967. (PB-176240)
- WBTM 26 A Study of Winds in the Lake Mead Recreation Area. R. P. Augulis, January 1968. (PB-177830)
- WBTM 27 Objective Minimum Temperature Forecasting for Helena, Montana. D. E. Olsen, February 1968. (PB-177827)

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U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL WEATHER SERVICE

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WEATHER EXTREMES

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WESTERN REGION  
TECHNICAL MEMORANDUM NO. 28

SALT LAKE CITY, UTAH  
JUNE 1973 (REVISED)

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## PREFACE

The purpose of this publication is to provide National Weather Service personnel with a ready reference of information that may be useful when preparing weather stories and radio scripts, when talking to mass-media reporters, and when answering questions from the general public. This third revision differs from the second revised tabulation in that a number of new extremes have been updated and previous errors have been corrected.

The Memorandum is organized into fifteen categories covering the elements of temperature, precipitation, snowfall, atmospheric pressure, and wind. The fourteen western cities, thirteen western states, United States, North America, and World are each listed in the various categories.

Only official observations are included in this Memorandum. The exception being, a few well-accepted unofficial extremes, such as the twenty-four hour precipitation of 38.70 inches at Yankeetown, Florida, and the 38.20 inches at Thrall, Texas.

Several unofficial observations of maximum rainfall amounts far exceed the data published here, but were excluded largely on the advice of State Climatologists.

An example of such an unofficial extreme was found in the August 1898 "Climate and Crop Service". It was the account of the observer at Fort Mohave, Arizona. *"On the 28th, we had the biggest rain in 10 or 15 years, and to my regret, between the rain and the furious wind, my rain gauge was upset. To give an idea of the amount of rain that fell, and which lasted only 45 minutes, I had a wash tub set out on the mesa, clear of everything, and the water after the rain, measured 8 inches."*

There was some question regarding the greatest snowfall in one storm for a few states. The problem is one of separating storms. When does one end and another begin? For example, the 84.6 inches of snowfall at Flagstaff, Arizona, in December 1967 was not included because it resulted from two storms with 27 hours of no precipitation between them. Although the Ruby, Colorado, snowstorm that produced 141.0 inches was included, there was some doubt that this storm actually lasted a full week.

Preface (Continued)

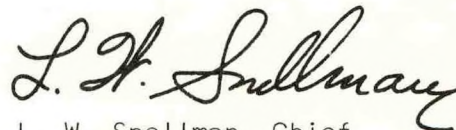
Los Angeles and San Francisco data are for city office locations only. Data for other cities are for a combination of city office and airport locations. In case dual records were kept over some period of time, and an event occurred during that period, the most extreme value was used.

There is little doubt that more extreme values have occurred than have been listed here. First of all, very few observing stations have records more than 100 years in duration. Secondly, the areas where weather extremes are most likely to occur are usually the most sparsely settled and where observations are not generally available.

We gratefully acknowledge the assistance of the Meteorologists in Charge of the various cities and the Climatologists for the various states in checking the data for this revision.

Special acknowledgment is given to Mr. Marvin Magnuson, Assistant Chief, Scientific Services Division, for his assistance.

The data in this Technical Memorandum are considered accurate through June 1973.



L. W. Snellman, Chief  
Scientific Services Division

TABLE I

HIGHEST TEMPERATURE (FAHRENHEIT)

ALBUQUERQUE	104	Jun 29 1898	Jul 3 1957	Jul 13 1971
ANCHORAGE	86	Jun 25 1953		
BOISE	111	Jul 19 1960		
CHEYENNE	100	Jul 14/15 1881	Jul 11 1939	Jun 23 1954
DENVER	105	Aug 8 1878		
HELENA	105	Aug 24 1969		
HONOLULU	92	Aug 21 1959	Sep 7 1959	
LAS VEGAS	117	Jul 24 1942		
LOS ANGELES	110	Sep 1 1955		
PHOENIX	118	Jul 16 1925	Jun 24 1929	Jul 11 1958
PORTLAND	107	Jul 2 1942	Jul 30 1965	
SALT LAKE CITY	107	Jul 26 1960		
SAN FRANCISCO	101	Sep 8 1904	Sep 16 1913	Jun 14 1961 Sep 14 1971
SEATTLE	100	Jul 16 1941	Jun 9 1955	
ALASKA	100	Fort Yukon	Jun 27 1915	
ARIZONA	127	Fort Mohave	Jun 12 1896	Parker Jul 7 1905
CALIFORNIA	134	Greenland Ranch	Death Valley	Jul 10 1913
COLORADO	118	Bennett	Jul 11 1888	
HAWAII	100	Pahala	Apr 27 1931	
IDAHO	118	Orofino	Jul 28 1934	
MONTANA	117	Glendive	Jul 20 1893	Medicine Lake Jul 5 1937
NEVADA	122	Leeland	Aug 12/18 1914	Overton Jun 23 1954
NEW MEXICO	116	Artesia	Jun 29 1918	Orogrande Jul 14 1934
OREGON	119	Prineville	Jul 29 1898	Pendleton Aug 10 1898
UTAH	116	Saint George	Jun 28 1892	
WASHINGTON	118	Wahluke	Jul 24 1928	Ice Harbor Dam Aug 5 1961
WYOMING	114	Basin	Jul 12 1900	
UNITED STATES	134	Greenland Ranch	Death Valley California	Jul 10 1913
NORTH AMERICA	134	Greenland Ranch	Death Valley California U.S.	Jul 10 1913
WORLD	136	Azizia	Libya	Sep 13 1922

TABLE 2

LOWEST TEMPERATURE (FAHRENHEIT)

ALBUQUERQUE	-17	Jan 7 1971	
ANCHORAGE	-38	Feb 3 1947	
BOISE	-23	Dec 10 1972	
CHEYENNE	-38	Jan 9 1875	
DENVER	-30	Feb 8 1936	
HELENA	-42	Jan 31 1893	Jan 25 1957
HONOLULU	53	Jan 31 1972	
LAS VEGAS	8	Jan 25 1937	Jan 13 1963
LOS ANGELES	28	Jan 4 1949	
PHOENIX	16	Jan 7 1913	
PORTLAND	-3	Feb 2 1950	
SALT LAKE CITY	-30	Feb 9 1933	
SAN FRANCISCO	27	Dec 11 1932	
SEATTLE	0	Jan 31 1950	
ALASKA	-80	Prospect Creek (25 SE Bettles) Jan 23 1971	
ARIZONA	-40	Hawley Lake Jan 7 1971	
CALIFORNIA	-45	Boca Jan 20 1937	
COLORADO	-60	Taylor Park Feb 1 1951	
HAWAII	14	Haleakala Summit Jan 2 1961	
IDAHO	-60	Island Park Dam Jan 18 1943	
MONTANA	-70	Rogers Pass Jan 20 1954	
NEVADA	-50	San Jacinto Jan 8 1937	
NEW MEXICO	-50	Gavilan Feb 1 1951	
OREGON	-54	Ukiah Feb 9 1933	Seneca Feb 10 1933
UTAH	-50	Woodruff Feb 6 1899	Strawberry East Portal Jan 5 1913
WASHINGTON	-48	Mazama Dec 30 1968	Winthrop Dec 30 1968
WYOMING	-63	Moran Feb 9 1933	
UNITED STATES	-80	Prospect Creek (25 SE Bettles) Alaska Jan 23 1971	
NORTH AMERICA	-81	Snag Yukon Territory Canada Feb 3 1947	
WORLD	-127	Vostok Antarctica El 11220 Ft Aug 24 1960	
	-121	Plateau Station Antarctica El 11890 Ft Aug 24 1966	
	-110	South Pole Antarctica El 9186 Ft Jul 14 1963	
	-90	Oimekon Siberia U.S.S.R. El 2625 Ft Feb 6 1933	
	-90	Verkhoyansk Siberia U.S.S.R. Feb 5/7 1892	
	-87	Northice Greenland El 7690 Ft Jan 9 1954	



TABLE 3

## GREATEST PRECIPITATION IN ONE HOUR (INCHES)

ALBUQUERQUE	1.63	Jul 8 1961
ANCHORAGE	0.45	Sep 12 1972
BOISE	0.98	Jul 30 1912
CHEYENNE	2.51	Jun 14 1926
DENVER	2.20	Aug 23 1921
HELENA	0.90	Sep 3 1911
HONOLULU	3.41	Apr 21 1924
LAS VEGAS	1.36	Aug 21 1957
LOS ANGELES	1.87	Nov 19 1967
PHOENIX	1.72	Aug 18 1966
PORTLAND	1.31	Jun 7 1927
SALT LAKE CITY	1.94	Jul 13 1962
SAN FRANCISCO	1.07	Mar 5 1912
SEATTLE	0.84	Jun 29 1952
ALASKA	1.05	Annette Oct 29 1958
ARIZONA	3.52	Tempe Citrus Experiment Station Sep 14 1969
CALIFORNIA	11.50	Campo Aug 12 1891 (80-minute amount)
COLORADO	3.45	Lake George Jul 31 1945
HAWAII	12	Kilauea Sugar Plantation Jan 24/25 1956
IDAHO	1.50	Cottonwood Aug 1 1948
MONTANA	1.86	Billings Jul 2 1958
NEVADA	1.36	Las Vegas Aug 21 1957
NEW MEXICO	2.81	Raton Jun 17 1965
OREGON	2.17	Copper Jun 8 1943
UTAH	2.13	Blanding Aug 1 1968
WASHINGTON	1.65	Grotto May 25 1945
WYOMING	2.51	Cheyenne Jun 14 1926
UNITED STATES	12.00	Holt Missouri Jun 22 1947
	12	Kilauea Sugar Plantation Hawaii Jan 24/25 1956
NORTH AMERICA	12.00	Holt Missouri U.S. Jun 22 1947
WORLD	12.00	Holt Missouri U.S. Jun 22 1947
	12	Kilauea Sugar Plantation Hawaii U.S. Jan 24/25 1956

TABLE 4

GREATEST PRECIPITATION IN TWENTY-FOUR HOURS (INCHES)

ALBUQUERQUE	2.26	Sep 27/28 1893
ANCHORAGE	2.06	Jul 30/31 1956
BOISE	2.72	Mar 5 1871
CHEYENNE	4.70	Jul 15 1896
DENVER	6.53	May 21/22 1876
HELENA	3.67	Jun 4/5 1908
HONOLULU	17.41	Mar 5/6 1958
LAS VEGAS	2.59	Aug 20/21 1957
LOS ANGELES	7.36	Dec 31 1933-Jan 1 1934
PHOENIX	4.98	Jul 1/2 1911
PORTLAND	7.66	Dec 12/13 1882
SALT LAKE CITY	2.72	May 2/3 1901
SAN FRANCISCO	4.67	Jan 29 1881
SEATTLE	3.52	Dec 11/12 1921
ALASKA	14.84	Little Port Walter Dec 6 1964
ARIZONA	11.40	Workman Creek (30 NNW Globe) Sep 4/5 1970
CALIFORNIA	26.12	Hoeees Camp Jan 22/23 1943
COLORADO	11.08	Holly Jun 17 1965
HAWAII	38	Kilauea Sugar Plantation Jan 24/25 1956
IDAHO	7.17	Rattlesnake Creek (Elmore County) Nov 23 1909
MONTANA	11.50	Circle Jun 20 1921
NEVADA	7.13	Mt. Rose Highway Station (near Reno) Jan 31 1963
NEW MEXICO	11.28	Lake Maloya May 19 1955
OREGON	10.17	Glenora Dec 21 1915
UTAH	6.00	Bug Point (24 E Blanding) Sep 5 1970
WASHINGTON	12.00	Quinault Ranger Station Jan 21 1935
WYOMING	5.50	Dull Center May 31 1927
UNITED STATES	38.70	Yankeetown Florida Sep 5/6 1950
	38.20	Thrall Texas Sep 9/10 1921
NORTH AMERICA	38.70	Yankeetown Florida U.S. Sep 5/6 1950
	38.20	Thrall Texas U.S. Sep 9/10 1921
WORLD	73.62	Cilaos La Reunion Mar 15/16 1952

TABLE 5

GREATEST PRECIPITATION IN ONE CALENDAR MONTH (INCHES)

ALBUQUERQUE	8.15	Jun 1852
ANCHORAGE	5.91	Aug 1934
BOISE	7.66	Mar 1871
CHEYENNE	7.66	Apr 1900
DENVER	8.57	May 1876
HELENA	6.67	May 1927
HONOLULU	20.79	Mar 1951
LAS VEGAS	3.39	Sep 1939
LOS ANGELES	15.80	Dec 1889
PHOENIX	6.47	Jul 1911
PORTLAND	20.14	Dec 1882
SALT LAKE CITY	5.81	Nov 1875
SAN FRANCISCO	24.36	Jan 1862
SEATTLE	15.33	Dec 1933
ALASKA	61.46	Jumbo Mine Nov 1917
ARIZONA	16.95	Crown King Aug 1951
CALIFORNIA	71.54	Helen Mine Jan 1909
COLORADO	23.28	Ruby Feb 1897
HAWAII	107	Kukui Mar 1942
IDAHO	28.23	Roland Dec 1933
MONTANA	16.79	Circle Jun 1921
NEVADA	33.03	Mt. Rose Highway Station (Near Reno) Dec 1964
NEW MEXICO	16.21	Portales May 1941
OREGON	50.20	Glenora Nov 1909
UTAH	19.14	Buckboard Flat (6 W Monticello) Oct 1972
WASHINGTON	57.04	Petersons Ranch (Near Cougar) Dec 1933
WYOMING	12.78	Alva May 1962
UNITED STATES	107	Kukui Hawaii Mar 1942
NORTH AMERICA	88.01	Swanson Bay British Columbia Canada Nov 1917
WORLD	366.14	Cherrapunji India Jul 1861

TABLE 6

GREATEST PRECIPITATION IN ONE CALENDAR YEAR (INCHES)

ALBUQUERQUE	16.30	1858	LAS VEGAS	10.72	1941
ANCHORAGE	19.27	1961	LOS ANGELES	40.29	1884
BOISE	25.80	1871	PHOENIX	19.73	1905
CHEYENNE	23.69	1942	PORTLAND	67.24	1882
DENVER	23.31	1967	SALT LAKE CITY	23.67	1875
HELENA	20.04	1881	SAN FRANCISCO	38.82	1884
HONOLULU	45.51	1963	SEATTLE	55.14	1950
ALASKA	269.30	Little Port Walter 1943			
ARIZONA	58.45	Pinal Ranch (Near Superior) 1905			
CALIFORNIA	153.54	Monumental 1909			
COLORADO	92.84	Ruby 1897			
HAWAII	578	Kukui 1950			
		Mt. Waialeale 624.10 Jul 24 1947 through Jul 27 1948			
IDAHO	81.05	Roland 1933			
MONTANA	55.51	Summit 1953			
		Grinnell Glacier 184.64 Jul 17 1958 through Aug 4 1959			
NEVADA	59.03	Mt. Rose Resort 1969			
NEW MEXICO	62.45	White Tail 1941			
OREGON	168.88	Valsetz 1937			
UTAH	54.97	Silver Lake Brighton 1922			
WASHINGTON	184.56	Wynoochee Oxbow (25 NNE Aberdeen) 1931			
WYOMING	55.46	Grassy Lake Dam 1945			
UNITED STATES	578	Kukui Hawaii 1950			
		Mt. Waialeale Hawaii 624.10 Jul 24 1947 through Jul 27 1948			
NORTH AMERICA	319.78	Henderson Lake British Columbia Canada 1931			
WORLD	905.12	Cherrapunji India 1861			
		1041.78 Aug 1860 through Jul 1861			

TABLE 7

LEAST PRECIPITATION IN ONE CALENDAR YEAR (INCHES)

ALBUQUERQUE	3.29	1917
ANCHORAGE	8.08	1969
BOISE	6.64	1966
CHEYENNE	5.94	1964
DENVER	6.27	1954
HELENA	6.28	1935
HONOLULU	9.97	1953
LAS VEGAS	0.56	1953
LOS ANGELES	4.08	1953
PHOENIX	2.82	1956
PORTLAND	26.11	1929
SALT LAKE CITY	8.99	1966
SAN FRANCISCO	9.00	1917
SEATTLE	19.52	1952
ALASKA	1.61	Barrow 1935
ARIZONA	0.07	Davis Dam 1956
CALIFORNIA	0.00	Greenland Ranch Death Valley 1929
	0.00	Bagdad 1913
COLORADO	1.69	Buena Vista 1939
HAWAII	0.19	Kawaihae 1953
IDAHO	2.09	Grand View 1947
MONTANA	2.97	Belfry 1960
NEVADA	Trace	Hot Springs 1898
NEW MEXICO	1.00	Hermanas 1910
OREGON	3.33	Warm Springs Reservoir 1939
UTAH	1.34	Hanksville 1956
WASHINGTON	2.61	Wahluke 1930
WYOMING	1.28	Lysite 1960
UNITED STATES	0.00	Greenland Ranch Death Valley California 1929
	0.00	Bagdad California 1913
NORTH AMERICA	0.00	Greenland Ranch Death Valley California U.S. 1929
	0.00	Bagdad California U.S. 1913
WORLD	0.00	Greenland Ranch Death Valley California U.S. 1929
	0.00	Bagdad California U.S. 1913
	0.00	Iquique Chile Nov 1945 through May 1957
	0.00	Arica Chile Oct 1903 through Dec 1917
	0.00	Kharga Egypt Dec 1957 through Mar 1960
	0.00	Wadi Halfa Sudan Jun 1945 through Apr 1949

TABLE 8

GREATEST SNOWFALL IN TWENTY-FOUR HOURS (INCHES)

ALBUQUERQUE	14.2	Dec 28/29 1958
ANCHORAGE	17.7	Dec 28/29 1955
BOISE	17.0	Dec 16/17 1884
CHEYENNE	16.5	Apr 11/12 1955
DENVER	23.0	Apr 23 1885
HELENA	21.5	Nov 11/12 1959
HONOLULU	0.0	
LAS VEGAS	5.0	Jan 11/12 1949
LOS ANGELES	2.0	Jan 15 1932
PHOENIX	1.0	Jan 20 1933    Jan 20/21 1937
PORTLAND	16.0	Jan 31 - Feb 1 1937
SALT LAKE CITY	18.1	Dec 28/29 1972
SAN FRANCISCO	3.7	Feb 5 1887
SEATTLE	21.5	Feb 2 1916
ALASKA	62.0	Thompson Pass Dec 29 1955
ARIZONA	38.0	Heber Ranger Station Dec 14 1967
CALIFORNIA	60.0	Giant Forest Jan 18/19 1933
COLORADO	75.8	Silver Lake Apr 14/15 1921
HAWAII		(Regular measurements of the snowfall on MAUNA KEA and MAUNA LOA are not made)
IDAHO	30.0	Pierce Ranger Station Dec 28 1968
MONTANA	44.0	Summit Jan 20 1972
NEVADA	25.0	Mt. Rose Resort Jan 20 1969
NEW MEXICO	30.0	Sandia Crest Dec 29 1958
OREGON	37.0	Crater Lake Jan 17 1951
UTAH	35.0	Kanosh Feb 9 1953
WASHINGTON	52.0	Winthrop Jan 21 1935
WYOMING	34.0	Bechler River Jan 28 1933
UNITED STATES	75.8	Silver Lake Colorado Apr 14/15 1921
NORTH AMERICA	75.8	Silver Lake Colorado U.S. Apr 14/15 1921
	44.0	Livingston Ranger Station Alberta Canada Jun 29 1963

TABLE 9

GREATEST SNOWFALL IN ONE STORM (INCHES)

ALBUQUERQUE	14.2	Dec 28-29 1958
ANCHORAGE	35.7	Dec 26-30 1955
BOISE	23.6	Dec 15-17 1884
CHEYENNE	23.1	Oct 19-23 1906
DENVER	45.7	Dec 1-6 1913
HELENA	28.5	Dec 5-14 1917
HONOLULU	0.0	
LAS VEGAS	5.0	Jan 11-12 1949
LOS ANGELES	2.0	Jan 15 1932
PHOENIX	1.0	Jan 20 1933    Jan 20-21 1937
PORTLAND	27.5	Dec 21-24 1892
SALT LAKE CITY	21.6	Mar 13-14 1944
SAN FRANCISCO	3.7	Feb 5 1887
SEATTLE	32.5	Jan 31-Feb 2 1916
ALASKA	175.4	Thompson Pass Dec 26-31 1955
ARIZONA	67.0	Heber Ranger Station Dec 13-16 1967
CALIFORNIA	189.0	Mt. Shasta Ski Bowl Feb 13-19 1959
COLORADO	141.0	Ruby Mar 23-30 1899
HAWAII		(Regular measurements of the snowfall on MAUNA KEA and MAUNA LOA are not made)
IDAHO	60.0	Roland West Portal Dec 25-27 1937
MONTANA	77.5	Summit Jan 17-22 1972
NEVADA	75.0	Mt. Rose Resort Jan 18-22 1969
NEW MEXICO	40.0	Corona Dec 14-16 1959
OREGON	95.0	Crater Lake Jan 15-19 1951
UTAH	105.0	Alta Jan 24-30 1965
WASHINGTON	129.0	Laconia Feb 24-26 1910
WYOMING	52.0	Bechler River Jan 15-19 1937
UNITED STATES	189.0	Mt. Shasta Ski Bowl California Feb 13-19 1959
NORTH AMERICA	189.0	Mt. Shasta Ski Bowl California U.S. Feb 13-19 1959

TABLE 10

GREATEST SNOWFALL IN ONE CALENDAR MONTH (INCHES)

ALBUQUERQUE	14.7	Dec 1959
ANCHORAGE	48.5	Feb 1955
BOISE	36.6	Dec 1884
CHEYENNE	46.5	Apr 1905
DENVER	57.4	Dec 1913
HELENA	46.4	Dec 1880
HONOLULU	0.0	
LAS VEGAS	16.7	Jan 1949
LOS ANGELES	2.0	Jan 1932
PHOENIX	1.0	Jan 1933    Jan 1937
PORTLAND	41.4	Jan 1950
SALT LAKE CITY	39.1	Dec 1948
SAN FRANCISCO	3.7	Feb 1887
SEATTLE	57.2	Jan 1950
ALASKA	297.9	Thompson Pass Feb 1953
ARIZONA	123.0	Sunrise Mountain Mar 1973
CALIFORNIA	390.0	Tamarack Jan 1911
COLORADO	249.0	Ruby Mar 1899
HAWAII		(Regular measurements of the snowfall on MAUNA KEA and MAUNA LOA are not made)
IDAHO	143.8	Burke Jan 1954
MONTANA	131.1	Summit Jan 1972
NEVADA	124.0	Mt. Rose Resort Jan 1969
NEW MEXICO	144.0	Anchor Mine Mar 1912
OREGON	256.0	Crater Lake Jan 1933
UTAH	168.0	Alta Jan 1967
WASHINGTON	363.0	Rainier Paradise Ranger Station Jan 1925
WYOMING	188.5	Bechler River Jan 1933
UNITED STATES	390.0	Tamarack California Jan 1911
NORTH AMERICA	390.0	Tamarack California U.S. Jan 1911
	202.0	Kemano Kildala Pass British Columbia Canada Feb 1954



TABLE 11

GREATEST SNOWFALL IN ONE SEASON (INCHES)

ALBUQUERQUE	23.5	1958-1959
ANCHORAGE	132.6	1954-1955
BOISE	50.0	1916-1917
CHEYENNE	100.8	1904-1905
DENVER	118.7	1908-1909
HELENA	112.8	1880-1881
HONOLULU	0.0	
LAS VEGAS	16.7	1948-1949
LOS ANGELES	2.0	1931-1932
PHOENIX	1.0	1932-1933    1936-1937
PORTLAND	60.9	1892-1893
SALT LAKE CITY	117.3	1951-1952
SAN FRANCISCO	3.7	1886-1887
SEATTLE	67.5	1968-1969
ALASKA	974.5	Thompson Pass 1952-1953
ARIZONA	400.9	Sunrise Mountain 1972-1973
CALIFORNIA	884.0	Tamarack 1906-1907
COLORADO	811.9	Wolf Creek Pass 1936-1937
HAWAII		(Regular measurements of the snowfall on MAUNA KEA and MAUNA LOA are not made)
IDAHO	441.8	Roland West Portal 1949-1950
MONTANA	406.5	Kings Hill 1958-1959
NEVADA	323.0	Mt. Rose Resort 1968-1969
NEW MEXICO	483.0	Anchor Mine 1911-1912
OREGON	879.0	Crater Lake 1932-1933
UTAH	663.0	Alta 1951-1952
WASHINGTON	1122.0	Rainier Paradise Ranger Station 1971-1972
WYOMING	491.6	Bechler River 1932-1933
UNITED STATES	1122.0	Rainier Paradise Ranger Station Washington 1971-1972
NORTH AMERICA	1122.0	Rainier Paradise Ranger Station Washington U.S. 1971-1972
	880.0	Kemano Kildala Pass British Columbia Canada 1956-1957

TABLE 12

GREATEST DEPTH OF SNOW ON THE GROUND (INCHES)

ALBUQUERQUE	14	Dec 29 1958	
ANCHORAGE	47	Dec 30/31 1955	Jan 1 1956
BOISE	22	Dec 17 1884	
CHEYENNE	21	Dec 5 1913	
DENVER	33	Dec 6 1913	
HELENA	24	Dec 13 1917	Jan 27 1969
HONOLULU	0		
LAS VEGAS	5	Jan 12 1949	
LOS ANGELES	2	Jan 15 1932	
PHOENIX	1	Jan 20 1933	Jan 21 1937
PORTLAND	19	Feb 6 1893	
SALT LAKE CITY	23	Jan 31 1942	
SAN FRANCISCO	4	Feb 5 1887	
SEATTLE	29	Feb 2 1916	
ALASKA	190	Thane Camp #4	Mar 28 1917
ARIZONA	91	Hawley Lake	Dec 21 1967
CALIFORNIA	451	Tamarack	Mar 11 1911
COLORADO	254	Ruby	Mar 30 1899
HAWAII		(Regular measurements of the depth of snow on the ground on MAUNA KEA and MAUNA LOA are not made, but drifts of more than 8 feet have been observed on the summit of MAUNA KEA)	
IDAHO	182	Mullan Pass	Feb 20 1954
MONTANA	190	Summit	Feb 1 1972
NEVADA	173	Tahoe Meadows	Feb 27 1969
NEW MEXICO	95	Sandia Crest	Apr 4 1973
OREGON	246	Timberline Lodge	Mar 19 1950
UTAH	179	Alta	Apr 5 1958
WASHINGTON	367	Rainier Paradise Ranger Station	Mar 9 1956
WYOMING	96	Bechler River	Mar 3 1939
UNITED STATES	451	Tamarack California	Mar 11 1911
NORTH AMERICA	451	Tamarack California U.S.	Mar 11 1911

TABLE 13

HIGHEST SEA-LEVEL PRESSURE (MILLIBARS AND INCHES)

ALBUQUERQUE	1044.7 / 30.85	Dec 22 1967
ANCHORAGE	1053.2 / 31.10	Jan 18 1962
BOISE	1054.2 / 31.13	Jan 21 1930
CHEYENNE	1054.5 / 31.14	Jan 10 1962
DENVER	1057.9 / 31.24	Jan 10 1962
HELENA	1063.3 / 31.40	Jan 9 1962
HONOLULU	1026.8 / 30.32	Feb 10 1919
LAS VEGAS	1043.0 / 30.80	Dec 22 1967
LOS ANGELES	1035.9 / 30.59	Feb 17 1883
PHOENIX	1036.9 / 30.62	Dec 24 1898    Jan 24 1938
PORTLAND	1044.4 / 30.84	Feb 2 1880
SALT LAKE CITY	1052.8 / 31.09	Dec 8/9 1956
SAN FRANCISCO	1037.6 / 30.64	Mar 4 1902
SEATTLE	1044.0 / 30.83	Dec 3 1921
ALASKA	1064.3 / 31.43	Barrow Jan 3 1970
ARIZONA	1056.8 / 31.21	Grand Canyon Dec 22 1967
CALIFORNIA	1041.0 / 30.74	Sacramento Feb 17 1883
COLORADO	1060.6 / 31.32	Alamosa Dec 14 1964
HAWAII	1026.8 / 30.32	Honolulu Feb 10 1919 Lihue Jan 27 1955
IDAHO	1054.2 / 31.13	Boise Jan 21 1930
MONTANA	1063.3 / 31.40	Helena Jan 9 1962
NEVADA	1053.5 / 31.11	Elko Dec 9 1956
NEW MEXICO	1051.9 / 31.06	Farmington Dec 22 1967
OREGON	1050.8 / 31.03	Pendleton Jan 16 1957
UTAH	1054.2 / 31.13	Milford Dec 9 1956
WASHINGTON	1052.2 / 31.07	Walla Walla Jan 21 1930
WYOMING	1060.3 / 31.31	Casper Jan 9 1962
UNITED STATES	1064.3 / 31.43	Barrow Alaska Jan 3 1970
NORTH AMERICA	1067.3 / 31.52	Medicine Hat Alberta Canada Jan 24 1897
WORLD	1083.8 / 32.01	Agata Siberia U.S.S.R. Dec 31 1968
	1078.9 / 31.86	Barnaul Siberia U.S.S.R. Jan 23 1900
	1075.2 / 31.75	Irkutsk Siberia U.S.S.R. Jan 14 1893

TABLE 14

## LOWEST SEA-LEVEL PRESSURE (MILLIBARS AND INCHES)

ALBUQUERQUE	983.1 / 29.03	Oct 5 1948
ANCHORAGE	952.9 / 28.14	Jan 1 1948
BOISE	981.0 / 28.97	Dec 23 1955
CHEYENNE	977.3 / 28.86	Jan 12 1932
DENVER	976.3 / 28.83	Feb 9 1960
HELENA	979.3 / 28.92	Jan 11 1932
HONOLULU	993.6 / 29.34	Feb 3 1926
LAS VEGAS	987.8 / 29.17	Dec 10 1949
LOS ANGELES	990.9 / 29.26	Mar 10 1912
PHOENIX	992.9 / 29.32	May 18 1902
PORTLAND	967.2 / 28.56	Jan 9 1880
SALT LAKE CITY	983.4 / 29.04	Jan 12 1932
SAN FRANCISCO	977.0 / 28.85	Jan 27 1916
SEATTLE	974.3 / 28.77	Dec 4 1951
ALASKA	937.4 / 27.68	Dutch Harbor Nov 16 1912
ARIZONA	987.1 / 29.15	Flagstaff Feb 7 1937
CALIFORNIA	975.6 / 28.81	Point Reyes Jan 27 1916
COLORADO	975.0 / 28.79	Lamar Mar 13 1973
HAWAII	990.5 / 29.25	Lihue Aug 6 1959
IDAHO	981.0 / 28.97	Boise Dec 23 1955
MONTANA	975.3 / 28.80	Havre Jan 11 1932
NEVADA	979.7 / 28.93	Winnemucca Jan 27 1916
NEW MEXICO	978.7 / 28.90	Clayton Feb 8/9 1960
OREGON	967.2 / 28.56	Portland Jan 9 1880
UTAH	983.4 / 29.04	Salt Lake City Jan 12 1932
WASHINGTON	967.5 / 28.57	Tatoosh Island Dec 6 1952
WYOMING	977.3 / 28.86	Cheyenne Jan 12 1932
UNITED STATES	892.3 / 26.35	Matecumbe Key Florida Sep 2 1935
NORTH AMERICA	892.3 / 26.35	Matecumbe Key Florida U.S. Sep 2 1935
WORLD	877.1 / 25.90	750 miles east of Luzon Phillipines by aerial sounding eye of Typhoon Ida Sep 24 1958
	886.6 / 26.18	460 miles east of Luzon Phillipines by steamship Sapoeroea Aug 18 1927

TABLE 15

## HIGHEST WIND SPEED (MILES PER HOUR)

ALBUQUERQUE	90	Fastest Mile	Dec 9 1943
ANCHORAGE	74	Peak Gust	Jan 15 1971
	66	Fastest Mile	Apr 14 1945 Nov 23 1950
BOISE	61	Fastest Mile	Jul 29 1944
CHEYENNE	75	Fastest Mile	Mar 6 1972
DENVER	70	Peak Gust	Apr 16 1960 Jul 25 1965
	65	Fastest Mile	May 22 1933
HELENA	73	Fastest Mile	Jan 17 1944 Feb 16 1949
HONOLULU	83	Peak Gust	Jan 17 1959
	67	Fastest Mile	Jan 17 1959
LAS VEGAS	75	Peak Gust	Jul 14 1971
	64	Fastest Mile	Jul 14 1971
LOS ANGELES	49	Fastest Mile	Jan 12 1946
PHOENIX	75	Peak Gust	Sep 18 1950
PORTLAND	90	Peak Gust	Oct 12 1962
	88	Fastest Mile	Oct 12 1962
SALT LAKE CITY	94	Peak Gust	Jun 3 1963
	71	Fastest Mile	Mar 10 1954
SAN FRANCISCO	51	Fastest Mile	Nov 20 1906 Nov 27 1919 Dec 1 1923
SEATTLE	78	Peak Gust	Oct 12 1962
	65	Fastest Mile	Apr 23 1943 Oct 12 1962
ALASKA	139	Peak Gust	Shemya Dec 21 1959
ARIZONA	81	Peak Gust	Tucson Aug 8 1961 Jul 16 1971
CALIFORNIA	85	Peak Gust	Sandberg Feb 10 1960
	77	One Minute	Sandberg Feb 10 1960
COLORADO	80	Fastest Mile	Pueblo Jan 17 1950
	143	Peak Gust	Boulder Jan 11 1972
HAWAII	103	Peak Gust	Kilauea Point Aug 7 1959
IDAHO	72	Fastest Mile	Pocatello Mar 24 1955
MONTANA	82	Fastest Mile	Great Falls Dec 10 1956
NEVADA	80	Fastest Mile	Reno Jan 10 1968 Mar 12 1968
NEW MEXICO	108	Peak Gust	Raton Feb 1 1963
	90	Fastest Mile	Albuquerque Dec 9 1943
OREGON	96	Peak Gust	Astoria Oct 12 1962
	88	Fastest Mile	Portland Oct 12 1962
UTAH	94	Peak Gust	Salt Lake City Jun 3 1963
	71	Fastest Mile	Salt Lake City Mar 10 1954
WASHINGTON	113	Fastest Mile	North Head Jan 29 1921
WYOMING	96	Peak Gust	Sheridan Nov 27 1949
	84	Fastest Mile	Sheridan Nov 27 1949
UNITED STATES	231	Peak Gust	Mt. Washington New Hampshire Apr 12 1934
	188	Five Minute	Mt. Washington New Hampshire Apr 12 1934
NORTH AMERICA	231	Peak Gust	Mt. Washington New Hampshire U.S. Apr 12 1934
	188	Five Minute	Mt. Washington New Hampshire U.S. Apr 12 1934
WORLD	231	Peak Gust	Mt. Washington New Hampshire U.S. Apr 12 1934
	188	Five Minute	Mt. Washington New Hampshire U.S. Apr 12 1934
	207	Peak Gust	Thule Air Base Greenland Mar 8 1972

Western Region Technical Memoranda: (Continued)

- No. 45/2 Precipitation Probabilities in the Western Region Associated with Spring 500-mb Map Types. Richard P. Augulis. January 1970. (PB-189434)
- No. 45/3 Precipitation Probabilities in the Western Region Associated with Summer 500-mb Map Types. Richard P. Augulis. January 1970. (PB-189414)
- No. 45/4 Precipitation Probabilities in the Western Region Associated with Fall 500-mb Map Types. Richard P. Augulis. January 1970. (PB-189435)
- No. 46 Applications of the Net Radiometer to Short-Range Fog and Stratus Forecasting at Eugene, Oregon. L. Yee and E. Bates. December 1969. (PB-190476)
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