

# NEW MEXICO Climate



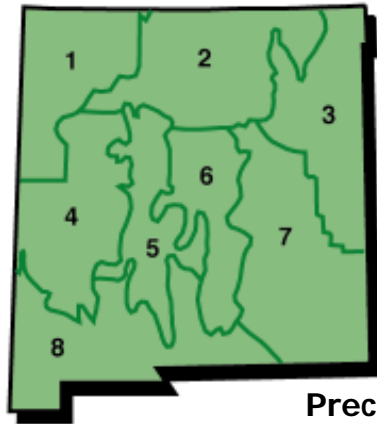
A service of NMSU's Climate Center | **Fall 1999**  
Office of the State Climatologist | Department of Agronomy and Horticulture  
College of Agriculture and Home Economics | Agricultural Experiment Station

## Drought in New Mexico

New Mexico has suffered periods of drought since prehistoric times. The collapse of many early civilizations in New Mexico can be traced to periods of extended drought. Since the turn of the century, periods of drought have devastated the state, particularly the years 1900–1910, 1932–1937, 1945–1956, and 1974–1977.

### *The Drought Emergency Plan*

The short-term drought that affected New Mexico in 1996 prompted the state to prepare a drought emergency plan for New Mexico. The overall goal of this plan is to protect natural resources and the economic base in New Mexico by minimizing vulnerability to drought. The plan is posted on the New Mexico Climate Center's home page on the World Wide Web (<http://weather.nmsu.edu/>).



autumn (September–November). But two areas experienced below-normal precipitation. The first area included the southeast plains of division 7 from Crossroads south in extreme northern Lea County, to the Eddy–Otero county line along the Texas border. The second area was a 75 mile strip from Glenwood to near Belen.

After a wet October and November, December became progressively drier, resulting in the driest winter of the century. In January the snow pack/snow water equivalent percentages compared to the

long-term averages showed that the Canadian Basin was only 6 percent of average; the Pecos Basin, 69 percent

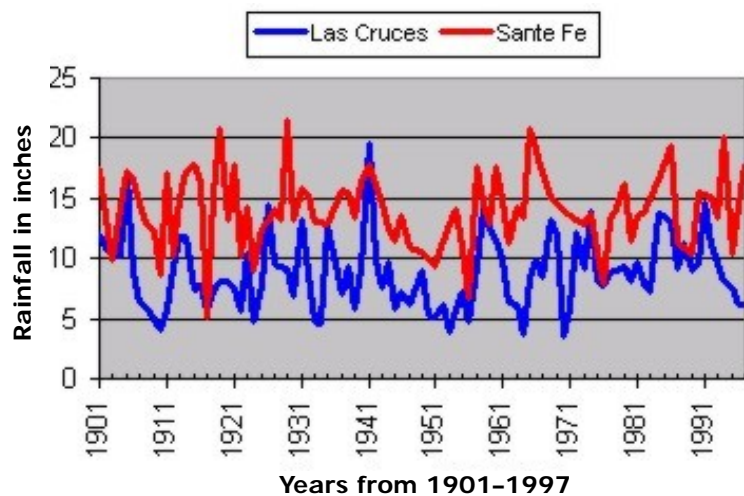
*Climate zones in New Mexico*

### *Recent Droughts*

During the development of the drought plan, a new drought started in New Mexico. In July of 1998, the east side of the state was in a drought alert. In August 1998, Governor Gary E. Johnson requested an agricultural disaster declaration from Secretary of Agriculture Dan Glickman for 10 eastern New Mexico counties.

The state has eight climate zones, and by November 1999 most of the drought conditions had disappeared because of an exceptionally wet October. Most of New Mexico experienced a wetter than normal

### Precipitation for Las Cruces and Santa Fe



of average; Rio Grande Basin, 84 percent of average; Mimbres Basin, 21 percent of average; San Francisco/Gila Basin, 47 percent of average; Zuni/Bluewater Basin: 56 percent of average; San Juan Basin, 104 percent of average; and the Chuska Basin (north of Gallup), 80 percent of average. All basins with the exception of the San Juan Basin were in worse condition than in the previous year.

Conditions improved as June rains allowed the lifting of fire restrictions in most

of New Mexico's state and national forests. However, in July all climate zones except divisions 3 (the northeast side of the state) and 7 (the southeast side of the state) were still in some drought advisory. By August no divisions were in drought condition.

Drought monitoring continues. The period from 1998 to July 1999 has seen yet another drought episode in the state—and drought is sure to occur again.

## *Weather watchers record climate information*

---

The Cooperative Observer Network of the National Oceanic and Atmospheric Administration and National Weather Service was established in 1890. At about 10,900 observing sites in the United States, of which 203 sites are in New Mexico, cooperators record daily rain and snowfall, and daily maximum and minimum temperatures. Some cooperators record river stages, evaporation, and soil temperature. Most observers are volunteers who read the weather instruments 365 days a year. The farm and ranch community has a long history of participating in this program.

Each morning, observers read daily maximum and minimum temperature sensors, record the data, and mail it monthly to the National Weather Service. Monthly data is stored at both the National Climate Data Center and the Western Regional Climate Center. Some observers send the information daily to the National Weather Service by phone and a computer system called ROSA. This daily data is available on the Internet at NMSU's Climate Center.

New Mexico cooperators have been at their jobs for more than 100 years. Climate change studies that have recently been in the news are usually based on cooperator data, which is more consistent than data from National Weather Service observing sites. Most National Weather Service sites have gaps in their records because the sites were moved from cities to airports in the



of participating in this program.

Observers record measurements from a standard precipitation gauge 8 inches in diameter, which is

*An educational cooperative observer station has been established at the Farm and Ranch Heritage Museum in Las Cruces by the New Mexico Climate Center. Mary Thompson, a museum volunteer, reads and records data from the weather station.*

1940s and have undergone several changes in instrumentation.

Expanding cities and increasing airport traffic have made airport data valuable for studying the climatic effects of urbanization. But climate data from the airport sites are of limited value for studying global climate change and for agricultural purposes. Data gathered through the Cooperative Observer Network fills these important needs for climate information.

The cooperators station at NMSU, started in January 1892, is one of the oldest cooperators stations in the western United States.

Historical data from the cooperators network can be acquired from the New Mexico Climate Center by calling 646-5082 or by sending email to [webmaster@weather.nmsu.edu](mailto:webmaster@weather.nmsu.edu). The data also is available on the Internet from:

- NMSU's Climate Center  
<http://weather.nmsu.edu/>
- National Climate Data Center  
<http://www.ncdc.noaa.gov/>
- Western Regional Climate Center  
<http://www.wrcc.dri.edu/>

## Sources of New Mexico climate data

### ✧ Air quality

New Mexico Environmental Protection Agency  
[http://www.epa.gov/aqspubl1/annual\\_summary.html](http://www.epa.gov/aqspubl1/annual_summary.html)

### ✧ Meteorological graphs and data

Sevilleta Long Term Ecological Research  
<http://sevilleta.unm.edu/data/archive/climate/>

### ✧ Meteorology Branch, White Sands Missile Range, New Mexico

<http://155.148.19.139/>

### ✧ Hourly data for fire forecast

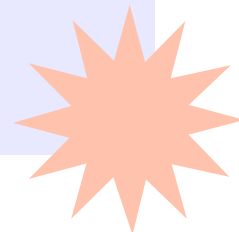
Remote Automatic Weather Station (RAWS)  
<http://www.boi.noaa.gov/FWXEXP/RAWS/Pages/nmmap.html>

### ✧ Current weather at New Mexico airports, hourly data

<http://www.srh.noaa.gov/abq/sfcobs.htm>

### ✧ Map-based graphing and data retrieval

NMSU's Climate Center  
<http://weather.nmsu.edu/map/map.htm>



## About NMSU's Climate Center

NMSU's Climate Center is office of the state climatologist. The climatologist helps New Mexicans understand the impact of climate changes on the environment, human health, and agricultural production.

The state climatologist is responsible for archiving weather data and distributing climate information to the public. Unlike meteorologists, climatologists do not provide weather forecasting or up-to-the-minute bulletins. Instead, they use a computerized data collection system to provide statewide weather reports for previous days, as well as for historical information.

The goal of the Climate Center is to put climate data into a form people can

use to make decisions about their lives. During fire season, people use climate data to assess potential fire hazard and to evaluate fire-fighting conditions. Engineers use information about rainfall and flooding to design bridges, culverts, storm sewers, and sanitary sewers. Business and industry use climate data to evaluate new or relocation sites. Farmers can use it to anticipate outbreaks of insect pests or crop diseases. People also use climate data in planning their recreation and travel.

*The office of the state climatologist and its head, the state climatologist, are described in New Mexico Statute 75-4-1 through 75-4-4.*

*For more information—*

**State climatologist:** Ted Sammis

**Phone:** (505) 646-2104

**Data services:** (505) 646-5082

**Email:** [webmaster@weather.nmsu.edu](mailto:webmaster@weather.nmsu.edu)

**Internet:** <http://weather.nmsu.edu>

New Mexico State University is an equal opportunity/affirmative action employer and educator.



Office of the State Climatologist  
Department of Agronomy and Horticulture  
P.O. Box 30003, MSC 3Q  
Las Cruces, NM 88003-8003

