

Hazard/Definition

Severe Winter Storm:

Ice storm, blizzard and extreme cold. Vulnerable areas would be subject to heavy snowfall, combined snow and high winds or ice storms.

Description/Frequency

Winter storms vary in size and strength and can be accompanied by strong winds that create blizzard conditions and dangerous wind chill. There are three categories of winter storms. A **blizzard** is the most dangerous of all winter storms. It combines low temperatures, heavy snowfall, and winds of at least 35 miles per hour, reducing visibility to only a few yards. A **heavy snow storm** is one which drops 4 or more inches of snow in a 12-hour period. An **ice storm** occurs when moisture falls and freezes immediately upon impact.

Historical Score: 4

Winter storms affect Boulder County almost every year varying in intensity and duration. One of the worst winter storms that affected this area was the **Christmas storm of 1982**. The storm began on Christmas Eve and lasted through Christmas Day. Winds whipped the heavy snow into drifts, closing roads and stranding travelers.

On **December 24th through the 29th in 1987**, 20 inches fell in a few days putting the City's snow removal budget into a \$60,000 deficit. Snow removal operations countywide cost at least \$280,000.

A late winter snowstorm on **March 6, 1990**, dumped more than 2 feet of wet snow in the foothills paralyzing traffic, stranding travelers, preventing mail delivery and causing hundreds of accidents and power outages in Boulder County. Winds of 37 mph qualified the storm as a blizzard.

On **March 9, 1992**, 20 inches of snow fell in the County. The storm began early in the afternoon with thunder and lightning. The weather went from spring-like to winter in about 1 hour. More than 25,000 residents were without electricity when wet, wind driven snow took down power lines. Many cars were stranded on Highway 36 between Boulder and Denver, and on Highway 93 between Boulder and Golden.

A snowstorm on **April 24, 1997** dumped over 16 inches of snow in Boulder and mountain areas received a total of around 30 inches.

Mitigation Options/Strategies

- C The Boulder County Multiple Agency Coordinating System (MACS) group, consists of representatives from all agencies and jurisdictions within the County. This group makes plans and agreements for the procurement of resources needed during emergencies.
- C The NOAA Weather Lab in Boulder is working in cooperation with the City and County of Boulder using an experimental forecasting system. A weather display has been installed in the Emergency Operations Center that is linked with the NOAA Lab. The system is experimental and final decisions are not made using this information alone.
- C SCC Communications and US West partnered together for a warning and evacuation system for Boulder County. It is called the Emergency Warning and Evacuation Service (EWES) and is part of the Emergency Preparedness Network (EPN). The existing 9-1-1 database of telephone numbers and addresses is used in combination with detailed maps to help determine the geographic boundaries of an area impacted. The system is capable of calling up to 2,000 numbers in one minute. It is designed to deliver recorded information to endangered people in advance of a disaster or any major event. Messages can be delivered in various languages, as well as to pagers or the Emergency Alert System (EAS). Multiple floodplain areas can be handled during a single event with priority given to the area most impacted.
- C Keep posted on weather conditions through the use of radio, television and newspapers.
- C Public education programs to increase personal protection and reduce the number of deaths from severe winter storms.

Hazard/Definition

Severe Winter Storm.....Page 2:

Description/Frequency

During the "Blizzard of 1997" on October 24, 1997, Boulder received 30 inches of snow in 48 hours. A total of 51 inches fell in Coal Creek Canyon just west and south of Boulder. Power outages were sporadic and tree breakage was minimal. Areas south and east of Boulder County were impacted more by the storm than Boulder County due to the winds that created blizzard conditions. This storm was the largest October storm in Boulder history, ranking 4th largest on record. Snow totals made the 1997 calendar year the snowiest on record with a total of approximately 130 inches.

Other Storms with measurable snowfall:

December 4-5, 1913:	43 inches
November 2-5, 1946:	31 inches
January 23-27, 1948:	21 inches
April 7-11, 1959:	26 inches
March 29-31, 1970:	26 inches
September 17-18, 1971:	21 inches
May 5-6, 1978:	31 inches
November 20, 1979:	22 inches
November 26-27, 1983:	23 inches

The most snowfall in a 24 hour period occurred in Boulder County in April 1921 at Silver Lake when 76 inches was recorded.

Potential Score: 4

The probability of occurrence exists for a severe winter storm during any year in Boulder County due to its geographic location. The highest point in the county is 14,255 feet and the lowest 4,986 feet. Over 50 percent of the County is 6,000 feet or above in elevation.

Mitigation Options/Strategies

- C Be prepared for isolation at home, particularly in rural areas, by keeping food, water and medicines on hand. Keep a battery powered radio, extra batteries, lanterns or candles on hand should a power failure occur.

- C Have some kind of emergency heating equipment or an alternate heat source such as a wood burning stove.

Hazard/Definition

Description/Frequency

Mitigation Options/Strategies

Severe Winter Storm.....Page 3:

Impact on Life and Property:

Heavy snowfall and blizzards have trapped motorists in their cars, caused major traffic accidents, and isolated people in their homes. Fire during winter storms presents a great danger because water supplies may freeze and fire fighting equipment may not be able to get to the fire. One of the more serious dangers accompanying any winter storm is the threat of physical overexertion which may lead to heart attacks or strokes. If the storm is longer in duration than one or two days, there is an increased possibility of utility failures and interruption of services. This can lead to death from extended exposure to cold temperatures. Snow removal costs can impact budgets of cities and towns as it did in the City of Boulder during the storm of 1987. Heavy snowfall that occurs during a winter season may cause flooding or landslides in the spring if the snowpack in the mountain areas melts too quickly.

Revised 2000