

Weather & Gardening

Many of the plants we buy contain tags indicating that they are **annual**, **perennial**, **temperate**, or **tropical**, illuminating how plants will respond to weather conditions (temperature,

rainfall, wind, light and surrounding structures). While you may not be able to control these conditions, you can fine-tune the location (shady vs. sunny) of the plant that is suggested for the specified zone considering the light, heat and the plant hardiness zone information of your area. This brochure should help you, the gardener, understand how local weather and climate can be utilized for successful gardening.

Information

Internet

weather.gov/Billings

Forecast and Current Conditions

(406) 652-1916

Office Telephone

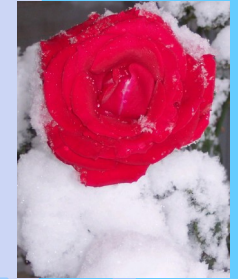
(406) 652-0851

Address

**2170 Overland Ave.
Billings, MT 59102**

Weather

&



Gardening

Billings, MT



NOAA's
National Weather Service
Billings, MT

Climate Services
Program

Tel: (406) 652 - 0851
<http://weather.gov/billings>

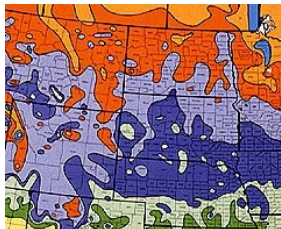
How does weather affect my garden?

Weather is the ultimate factor determining whether plants will thrive or perish. Temperature, moisture and their extremes have a direct effect on the survival of plants. Climate is the main reason plants favor certain places to grow. Climate is the behavior of the weather which can be described by both average values and extremes over a period of time. Knowing the local climate is a key factor to successful gardening.



What are the key elements of the weather for gardening?

Freezes: Freezing temperatures determine the length of the growing season. The United States Department of Agriculture (USDA) uses Plant Hardiness Zones which factors in average winter minimum temperatures. The USDA Plant Hardiness Zone for Billings is Zone 4, where minimum winter temperatures can fall to minus 20 to minus 30 °F. Selecting perennial plants for your garden should start with insuring they will survive the winter by utilizing the USDA Hardiness Zone Map. Annuals, plants that live only for one year or one season, such as petunias or vincas, are capable of living years in a frost-free environment. Knowing the first and last freeze days for your location can help in successful gardening. The following table



shows the average last day of spring freeze and the average first day of fall freeze with associated risks (chance of freeze between these dates) in Billings. For further information on the USDA plant Hardiness zones:

<http://www.usna.usda.gov/Hardzone/ushzmap.html>

Last Day of Freeze	Risk	First Day of Freeze
May 17	10%	September 18
May 4	50%	October 1
April 21	90%	October 14

Heat: Extreme heat stresses plants and can even result in their demise. The American Horticultural Society (AHS) uses heat codes based on the average number of days per year with temperatures greater than 86°F. The average number of days of temperatures greater than 86°F in Billings is 40. These numbers place Billings in plant heat zone 6 according to the AHS heat zone classification. Most plants have the heat zone coding information on the tag. Make sure to select plants that will be suitable for your zone.



Wind: Transpiration from the plants and evaporation from the soil causes significant moisture loss. Since wind enhances evaporation and transpiration, on a hot day the wind will have a negative effect, rapidly dehydrating the plant.

Knowing the average wind speed and direction in your local area can help you plan for better gardening. You can reduce the air circulation by building fences and planting hedges. The annual average wind for Billings is 11 mph from the southwest. However, you can

make a more informed decision by consulting the National Weather Service web site for current wind conditions as well as the forecast for areas around Billings: <http://weather.gov/billings>

Moisture: Plant tissues must contain enough water to keep their cells active. Some plants may be advertised as drought-tolerant, but no plant can survive becoming completely dry. Too much water can cut off the oxygen supply to the roots. Knowing the local seasonal rainfall averages helps determine the need for additional water due to the overall dry climate in Montana. Billings receives an average of 14.77 inches of precipitation annually. The table below is a monthly break-down of the year.

JAN	FEB	MAR	APR	MAY	JUN
0.81	0.58	1.12	1.74	2.48	1.89

JUL	AUG	SEP	OCT	NOV	DEC
1.28	0.85	1.34	1.26	0.75	0.67

