

# 2009 Weather at the Arboretum

*Bob Famiglietti*

**A**s in 2008, greater than normal rainfall occurred in 2009, resulting in optimum soil moisture conditions at the Arboretum. Excellent growth rates were recorded on a vast majority of our woody plants.

**JANUARY** was colder than normal. The minimum temperature dropped to at least 28°F on every night, a rare occurrence. Readings of -1°F were recorded on the 15th, 16th, and 17th, the low for the year. Three storms that each deposited about 6 inches of snow left a persistent snow cover on the ground. Snow total for the month was 21 inches.

**FEBRUARY** was mild and dry with only 7 inches of snow, six of that coming on the 3rd. The relative warmth reduced a foot of accumulated snow on the ground at the beginning of the month to all but a trace by the end of the month. February's high temperature of 60°F was reached on the 27th.

**MARCH** had average temperatures and produced only 10 inches of snow. A temperature of 61°F occurred twice, and the snow pack melted by mid month.

**APRIL** was a month of extremes. It began cool, as low temperatures dropped into the 30s for thirteen days. Our last freeze occurred on the 13th when it hit 32°F. Temperatures soared to the other extreme by the end of the month. Our first day over the 70°F mark arrived on the 24th, making it to 71°F. It reached 86°F on the 25th and 26th and then soared to 95°F on the 28th, an amazing leap from the freezing temperature barely two weeks earlier. This was the highest temperature since June 2008, and also turned out to be the high for the year. Rainfall was 4.13 inches for the month.

**MAY** was warm, cloudy, and dry. Even though rain was measured on fourteen days, it only totaled 2.76 inches for the month. Weather conditions for the Arboretum's annual Lilac Sunday event on May 10th were extremely windy, with gusts over 40 miles per hour. A high of 91°F was reached on the 21st, the only reading in the 90s for May.

**JUNE** had eighteen consecutive days with below normal temperatures (8th–25th) finishing almost 5°F below normal for the month. It was the third coldest June in 183 years of Boston weather-keeping records. Clouds were persistent and rain was measured on nineteen days with traces on four others. Precipitation was 3.99 inches for the month and there were only six days when no water was detected in our rain gauge. A frequent east wind kept us cloudy, cool, and damp. These cool, damp, early summer conditions made it an excellent year for post-transplanting establishment of new plants in the collection; little supplemental watering was needed. On the negative side, the cool, damp weather exacerbated a widespread outbreak of the late blight fungus (*Phytophthora infestans*) in the Northeast. Late blight attacks plants in the nightshade family (Solanaceae) and is the fungus that was a major factor in the Irish potato famine of the 1850s. Farmers and home gardeners in the region had to destroy tomato and potato crops to prevent the spread

## Arnold Arboretum Weather Station Data • 2009

	Avg. Max. (°F)	Avg. Min. (°F)	Avg. Temp. (°F)	Max. Temp. (°F)	Min. Temp. (°F)	Precipi- tation (inches)	Snow- fall (inches)
JAN	29.8	13.9	21.8	40	-1	4.65	21.0
FEB	39.6	21.6	30.6	60	3	2.07	7.0
MAR	44.1	27.7	35.9	61	8	3.01	10.5
APR	60.1	40.1	50.1	95	30	4.13	
MAY	68.7	50.3	59.5	91	43	2.76	
JUN	71.5	55.5	63.5	83	43	3.99	
JUL	78.0	61.6	69.8	88	51	7.91	
AUG	82.2	65.2	73.7	93	55	3.40	
SEP	71.1	52.8	62.0	79	41	3.28	
OCT	58.2	41.2	49.7	73	32	5.62	
NOV	55.4	40.7	48.1	69	29	3.76	
DEC	39.4	23.7	31.6	69	9	5.27	10.5

Average Maximum Temperature . . . . . 58.2°

Average Minimum Temperature . . . . . 41.2°

Average Temperature . . . . . 49.7°

Total Precipitation . . . . . 49.85 inches

Total Snowfall . . . . . 49.0 inches

Warmest Temperature . . . . . 95° on April 28

Coldest Temperature . . . . . -1° on January 15, 16, and 17

Last Frost Date . . . . . 32° on April 13

First Frost Date . . . . . 32° on October 19

Growing Season . . . . . 189 days



SUE A. PEIFFER

A lightning strike at about 9 a.m. on July 2, 2009, destroyed this venerable Nikko fir (*Abies homolepis*) in the Arboretum's conifer collection. The explosive force threw pieces of the tree at least 180 feet away.

of late blight. The Arboretum has very limited holdings of woody plants in this family and no collections plants were affected. The damp conditions were also a factor in the appearance of fire blight (*Erwinia amylovora*), a bacterial disease, on some rose family (Rosaceae) plants in the collections. A high temperature of 83°F (lower than in April or May) was reached on the 26th.

**JULY** was also cloudy, cool, and wet, with 7.91 inches of rain, the sixth wettest July on record. There were fourteen days with measurable rainfall and traces on four others. Thunderstorms were frequent; on the 2nd, a lightning strike during a thunderstorm destroyed a notable 91-foot-tall, 110-year-old Nikko fir (*Abies homolepis*) in the Arboretum's conifer collection. 2.93 inches of rain fell on the 23rd, the highest one day total since December 11th, 2008. For five days it remained in the 60s and on eleven days it never made it out of the 70s. A high of 88°F was recorded on the 18th and 28th. We never reached 90°F, which is extremely rare for July. The combined June–July average temperature was the 4th coldest in Boston's recorded weather history.

**AUGUST** was very warm and, with only 3.4 inches of rain, our driest summer month. Measurable precipitation was recorded on only eight days. The high of 93°F was reached on the 18th. 90°F or greater was recorded on the 17th through the 19th, creating our only official heat wave of the summer.



NANCY ROSE

Visitors and Arboretum staff commented on the outstanding orange-russet fall color exhibited by the dawn redwoods (*Metasequoia glyptostroboides*) near the Hunnewell Visitor Center late in the autumn of 2009.

**SEPTEMBER** was cool, sunny, and a bit dry. A heavy rain occurred on the 11th and 12th, but rainfall was measured on only five days for a total of 3.28 inches. Long sunny breaks occurred between rain days. No temperatures of 80°F or higher were recorded during the month.

**OCTOBER** was cold and wet. Our growing season ended on the 19th with a low of 32°F. This was the 21st coldest October in 138 years of Boston weather history. Precipitation was measured on fifteen days for a total of 5.62 inches. Damp conditions notwithstanding, visitors to the Arboretum enjoyed another great fall foliage display this year.

KEVIN R. SCHOFIELD



A cool October followed by unusual warmth in November triggered an abundance of premature late-autumn blooms on this Fuji cherry (*Prunus incisa* f. *serrata*) in the Bradley Rosaceous Collection. An early December snow brought an end to the spring preview.

**NOVEMBER** was warm and somewhat dry, ranking as the 7th warmest November on record. It was only slightly cooler than October. A high of 69°F was recorded on the 9th. A low of 29°F was recorded on the 6th and 17th. This warm weather kept containerized nursery plants at the Arboretum's Dana Greenhouse from going completely dormant, the condition needed for winter root cellar storage. Many of our containerized plants had to wait for the cold of December to drop their leaves. Though they commonly open a few blossoms during late fall warm-ups, this year some of the mature cherry (*Prunus* spp.) trees in the Bradley Rosaceous Collection appeared to be in nearly full bloom.

**DECEMBER** started warm, reaching a high of 69°F on the 3rd. But it then turned cold, remaining below freezing for eight straight days from the 16th through the 23rd. This is just what our containerized woody plants needed to go into dormancy, and they could finally be put to bed for the winter. Almost a foot of snow fell over the weekend of the 19th and 20th.

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