

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information
Service

**Summary of Annual Normals
1981-2010**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: **LOCKWOOD, MO US**

GHCND:USC00235027
Elev: 1070 ft. Lat: 37.391° N Lon: 93.949° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	5/01	4/29	4/26	4/23	4/20	4/17	4/13	4/08
32	4/26	4/22	4/18	4/15	4/12	4/09	4/06	4/03	3/29
28	4/17	4/12	4/09	4/06	4/03	3/31	3/28	3/24	3/18
24	4/09	4/04	3/31	3/28	3/24	3/20	3/16	3/12	3/05
20	3/30	3/24	3/18	3/14	3/10	3/06	3/03	2/27	2/20
16	3/18	3/12	3/07	3/03	2/28	2/24	2/19	2/14	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/04	10/08	10/11	10/15	10/19	10/22	10/27
32	10/02	10/10	10/15	10/19	10/22	10/26	10/29	11/01	11/06
28	10/12	10/20	10/25	10/29	11/01	11/04	11/07	11/12	11/17
24	10/23	10/31	11/03	11/07	11/11	11/15	11/18	11/23	11/29
20	11/02	11/08	11/14	11/18	11/23	11/27	11/30	12/04	12/11
16	11/13	11/21	11/26	11/30	12/03	12/06	12/11	12/16	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	184	179	174	169	165	161	156	148
32	213	206	200	196	191	187	182	176	168
28	233	225	220	215	210	206	201	195	186
24	257	248	242	236	231	226	221	214	205
20	284	274	267	261	255	250	244	237	227
16	306	297	290	284	279	273	268	261	252

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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 1981-2010**

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 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: CHILLICOTHE AGRI SCIENCE CENTER, MO US

GHCND:USW00053916
 Elev: 769 ft. Lat: 39.823° N Lon: 93.579° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/12	5/06	5/03	4/30	4/27	4/25	4/22	4/18	4/13
32	5/02	4/27	4/23	4/20	4/17	4/13	4/10	4/07	4/02
28	4/21	4/16	4/12	4/09	4/06	4/03	4/01	3/29	3/23
24	4/11	4/06	4/03	3/31	3/29	3/25	3/22	3/17	3/11
20	4/02	3/29	3/25	3/21	3/17	3/14	3/10	3/06	3/01
16	3/23	3/18	3/14	3/10	3/07	3/04	3/01	2/25	2/18
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/28	10/01	10/04	10/07	10/11	10/14	10/19
32	9/29	10/05	10/10	10/14	10/17	10/20	10/23	10/26	10/31
28	10/12	10/19	10/22	10/25	10/28	10/31	11/02	11/05	11/10
24	10/24	10/30	11/01	11/04	11/06	11/09	11/13	11/16	11/22
20	11/02	11/06	11/10	11/13	11/16	11/20	11/24	11/28	12/03
16	11/09	11/15	11/19	11/24	11/27	11/30	12/03	12/07	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	166	162	158	154	149	144	137
32	202	195	190	185	181	176	171	166	158
28	223	216	212	207	203	199	195	189	182
24	244	236	231	227	222	219	214	209	202
20	268	259	253	248	244	239	234	229	221
16	289	280	274	269	264	259	254	249	241

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

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Station: **ADVANCE 1 S, MO US**

GHCND:USW00093825
 Elev: 360 ft. Lat: 37.096° N Lon: 89.916° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/02	4/29	4/25	4/22	4/19	4/16	4/13	4/09	4/04
32	4/23	4/19	4/15	4/12	4/09	4/06	4/03	3/31	3/24
28	4/14	4/09	4/05	4/02	3/31	3/27	3/23	3/19	3/14
24	4/05	3/31	3/25	3/21	3/17	3/14	3/10	3/06	3/01
20	3/24	3/17	3/13	3/08	3/04	3/01	2/26	2/21	2/14
16	3/12	3/05	3/01	2/25	2/21	2/17	2/12	2/06	1/31
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/27	10/01	10/05	10/08	10/11	10/14	10/17	10/21	10/26
32	10/05	10/10	10/15	10/19	10/22	10/25	10/29	11/01	11/06
28	10/16	10/23	10/27	10/31	11/02	11/06	11/09	11/13	11/20
24	10/27	11/02	11/07	11/11	11/16	11/20	11/25	11/30	12/05
20	11/04	11/14	11/20	11/26	12/01	12/04	12/08	12/13	12/21
16	11/20	11/29	12/03	12/07	12/12	12/18	12/23	12/27	1/03
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	188	183	178	174	170	165	161	154
32	217	209	204	200	195	191	186	181	174
28	241	232	226	221	217	212	208	202	194
24	269	259	253	247	242	236	231	224	215
20	297	287	280	274	268	262	256	248	238
16	322	312	305	299	294	288	282	274	264

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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Station: **ELM, MO US**

GHCND:USC00232568
 Elev: 850 ft. Lat: 38.868° N Lon: 94.035° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/05	5/01	4/29	4/26	4/23	4/20	4/16	4/10
32	4/29	4/24	4/20	4/17	4/14	4/11	4/08	4/04	3/31
28	4/19	4/13	4/09	4/07	4/04	4/02	3/30	3/25	3/20
24	4/09	4/05	4/01	3/29	3/26	3/22	3/19	3/15	3/09
20	3/31	3/26	3/22	3/18	3/14	3/11	3/07	3/03	2/27
16	3/21	3/16	3/11	3/08	3/05	3/02	2/27	2/22	2/15
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/02	10/05	10/08	10/11	10/14	10/18	10/22
32	10/03	10/08	10/13	10/16	10/20	10/23	10/25	10/29	11/01
28	10/14	10/20	10/24	10/27	10/31	11/02	11/05	11/09	11/15
24	10/26	11/01	11/03	11/07	11/10	11/14	11/17	11/21	11/27
20	11/04	11/10	11/14	11/18	11/22	11/25	11/29	12/02	12/08
16	11/13	11/19	11/24	11/28	12/01	12/04	12/07	12/12	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	185	177	172	168	164	160	155	150	143
32	207	200	195	191	186	182	177	172	164
28	229	222	217	212	208	204	200	194	187
24	253	245	239	234	229	225	220	215	207
20	275	267	261	257	252	247	242	236	228
16	295	287	281	276	271	266	261	255	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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Station: **CLARKSVILLE LOCK AND DAM 24, MO US**

GHCND:USC00231640
 Elev: 460 ft. Lat: 39.373° N Lon: 90.905° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/02	4/28	4/25	4/22	4/18	4/15	4/11	4/06
32	4/27	4/21	4/17	4/13	4/10	4/07	4/04	4/01	3/26
28	4/16	4/10	4/06	4/03	4/01	3/29	3/25	3/21	3/16
24	4/06	4/01	3/29	3/25	3/21	3/18	3/15	3/11	3/07
20	3/28	3/22	3/18	3/14	3/11	3/08	3/05	3/02	2/26
16	3/18	3/12	3/08	3/05	3/02	2/28	2/24	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/29	10/03	10/07	10/11	10/14	10/17	10/20	10/24	10/28
32	10/09	10/16	10/20	10/24	10/26	10/29	11/01	11/04	11/09
28	10/23	10/28	11/01	11/03	11/06	11/09	11/13	11/16	11/22
24	11/02	11/07	11/10	11/14	11/17	11/21	11/25	11/29	12/04
20	11/10	11/16	11/21	11/26	11/29	12/01	12/05	12/09	12/15
16	11/20	11/27	12/01	12/04	12/07	12/10	12/14	12/18	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	188	183	178	174	169	165	159	151
32	218	211	206	202	197	193	188	182	175
28	240	233	228	223	219	215	210	205	198
24	262	254	249	244	240	235	231	225	218
20	284	275	270	265	261	256	251	246	238
16	304	295	289	284	279	275	270	264	256

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

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 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST CHARLES CO AIRPORT, MO US**

GHCND:USW00053904
 Elev: 436 ft. Lat: 38.929° N Lon: 90.428° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/01	4/26	4/23	4/20	4/17	4/14	4/12	4/09	4/04
32	4/21	4/16	4/13	4/10	4/07	4/05	4/02	3/29	3/23
28	4/12	4/07	4/03	3/31	3/28	3/24	3/21	3/17	3/12
24	4/01	3/27	3/23	3/19	3/16	3/13	3/10	3/06	3/01
20	3/21	3/16	3/13	3/09	3/05	3/02	2/28	2/23	2/16
16	3/15	3/08	3/03	2/28	2/24	2/20	2/16	2/10	2/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/01	10/05	10/08	10/11	10/15	10/19	10/22	10/27
32	10/06	10/12	10/17	10/20	10/24	10/27	10/31	11/03	11/08
28	10/17	10/24	10/29	11/01	11/05	11/08	11/11	11/16	11/22
24	10/30	11/04	11/09	11/14	11/18	11/22	11/26	12/01	12/06
20	11/10	11/18	11/24	11/28	12/01	12/04	12/08	12/12	12/18
16	11/23	11/30	12/03	12/06	12/10	12/14	12/18	12/22	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	198	190	185	181	176	173	169	163	156
32	220	213	208	203	199	195	190	185	178
28	244	236	231	226	221	217	212	206	198
24	270	261	255	250	245	240	235	228	220
20	293	285	278	273	269	264	259	252	243
16	314	305	299	293	288	283	277	271	263

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

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Station: **SIKESTON POWER STATN, MO US**

GHCND:USC00237772
 Elev: 310 ft. Lat: 36.878° N Lon: 89.623° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/21	4/16	4/12	4/09	4/06	4/03	3/31	3/27	3/21
32	4/11	4/05	4/02	3/30	3/26	3/22	3/19	3/15	3/09
28	3/31	3/26	3/21	3/17	3/14	3/10	3/06	3/02	2/25
24	3/19	3/13	3/08	3/04	3/01	2/27	2/22	2/17	2/10
20	3/09	3/02	2/27	2/22	2/18	2/14	2/09	2/05	1/31
16	2/27	2/20	2/15	2/10	2/06	2/03	1/31	1/25	1/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/10	10/15	10/19	10/22	10/25	10/28	11/01	11/04	11/09
32	10/19	10/26	11/01	11/03	11/06	11/09	11/14	11/18	11/24
28	10/31	11/06	11/11	11/16	11/20	11/24	11/28	12/01	12/08
24	11/10	11/20	11/26	11/30	12/02	12/07	12/12	12/17	12/23
20	11/26	12/01	12/06	12/11	12/15	12/19	12/24	12/30	1/07
16	12/04	12/10	12/15	12/20	12/25	12/30	1/04	1/12	1/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	223	216	210	206	202	198	193	188	180
32	249	241	235	230	225	221	215	210	201
28	276	267	261	255	250	245	239	233	224
24	303	294	287	281	276	271	265	258	248
20	327	317	310	305	299	294	287	280	271
16	348	335	330	325	319	313	307	301	291

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

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Station: **FULTON, MO US**

GHCND:USC00233079
 Elev: 784 ft. Lat: 38.847° N Lon: 91.941° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/25	4/22	4/18	4/15	4/11	4/06
32	4/24	4/20	4/16	4/12	4/10	4/07	4/04	4/01	3/27
28	4/16	4/10	4/07	4/03	4/01	3/30	3/26	3/22	3/17
24	4/07	4/01	3/29	3/25	3/22	3/18	3/15	3/11	3/05
20	3/29	3/23	3/19	3/15	3/11	3/08	3/04	2/28	2/22
16	3/19	3/12	3/08	3/04	3/01	2/26	2/22	2/17	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/27	10/01	10/05	10/09	10/12	10/15	10/18	10/21	10/25
32	10/06	10/13	10/17	10/21	10/24	10/26	10/29	11/01	11/06
28	10/19	10/25	10/29	11/01	11/03	11/06	11/09	11/13	11/17
24	10/31	11/04	11/07	11/10	11/14	11/17	11/21	11/26	12/01
20	11/08	11/14	11/18	11/22	11/26	11/29	12/02	12/06	12/12
16	11/17	11/24	11/28	12/01	12/04	12/07	12/11	12/16	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	185	180	175	171	167	162	156	148
32	216	209	204	199	196	191	186	181	174
28	237	230	225	220	216	212	208	202	194
24	260	252	246	242	237	233	228	223	215
20	283	275	269	264	259	254	249	244	236
16	303	295	288	283	278	273	268	262	254

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

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 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST JOSEPH ROSECRANS MEMORIAL AIRPORT, MO US**

GHCND:USW00013993
 Elev: 818 ft. Lat: 39.774° N Lon: 94.923° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/03	4/30	4/28	4/26	4/23	4/20	4/16	4/12
32	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
28	4/21	4/16	4/12	4/10	4/07	4/04	4/02	3/29	3/23
24	4/12	4/08	4/04	4/01	3/30	3/26	3/22	3/18	3/13
20	4/05	3/31	3/26	3/22	3/18	3/15	3/12	3/07	3/02
16	3/25	3/19	3/15	3/12	3/08	3/05	3/02	2/27	2/19
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/23	9/27	9/29	10/02	10/05	10/07	10/11	10/16
32	9/28	10/02	10/06	10/09	10/13	10/16	10/19	10/22	10/28
28	10/08	10/14	10/18	10/21	10/24	10/27	10/31	11/03	11/08
24	10/20	10/25	10/29	11/01	11/04	11/06	11/10	11/14	11/20
20	10/31	11/03	11/07	11/11	11/14	11/18	11/22	11/27	12/02
16	11/07	11/13	11/17	11/21	11/26	11/29	12/02	12/06	12/13
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	166	162	158	154	150	146	139
32	199	192	187	182	178	174	169	164	157
28	220	213	208	203	199	195	191	185	178
24	242	234	229	224	219	215	211	205	198
20	265	257	251	246	241	236	231	225	217
16	286	278	271	266	262	257	252	245	238

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **GREENVILLE 6 N, MO US**

GHCND:USC00233451
 Elev: 490 ft. Lat: 37.200° N Lon: 90.450° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/18	5/11	5/07	5/04	5/01	4/29	4/26	4/23	4/18
32	5/05	5/01	4/28	4/24	4/21	4/18	4/15	4/11	4/05
28	4/24	4/20	4/16	4/13	4/10	4/06	4/02	3/29	3/23
24	4/15	4/10	4/05	4/01	3/29	3/24	3/20	3/16	3/10
20	4/05	3/30	3/24	3/19	3/15	3/11	3/07	3/04	2/28
16	3/22	3/15	3/10	3/06	3/02	2/28	2/24	2/19	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/27	10/01	10/03	10/05	10/08	10/10	10/14	10/19
32	10/01	10/04	10/08	10/11	10/14	10/17	10/20	10/24	10/29
28	10/08	10/15	10/19	10/22	10/25	10/28	11/01	11/04	11/09
24	10/18	10/25	10/30	11/02	11/05	11/09	11/13	11/17	11/23
20	10/29	11/04	11/10	11/14	11/18	11/22	11/27	12/01	12/06
16	11/07	11/16	11/22	11/28	12/01	12/04	12/08	12/14	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	174	168	163	159	155	151	147	142	135
32	197	189	183	179	174	170	166	161	154
28	220	213	207	202	198	194	189	183	176
24	245	237	231	226	221	216	211	204	195
20	272	263	257	251	245	240	234	227	218
16	298	289	283	277	271	265	259	252	242

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CHILLICOTHE 2 S, MO US**

GHCND:USC00231580
 Elev: 780 ft. Lat: 39.775° N Lon: 93.536° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	5/02	4/29	4/26	4/23	4/21	4/18	4/14	4/09
32	4/26	4/22	4/19	4/16	4/13	4/10	4/07	4/04	3/31
28	4/17	4/12	4/09	4/06	4/03	4/01	3/29	3/24	3/18
24	4/09	4/04	4/01	3/28	3/24	3/20	3/17	3/13	3/07
20	3/31	3/25	3/20	3/17	3/13	3/10	3/06	3/02	2/26
16	3/20	3/15	3/10	3/07	3/04	3/01	2/26	2/21	2/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/28	10/01	10/05	10/08	10/11	10/15	10/19	10/24
32	10/01	10/07	10/12	10/16	10/20	10/23	10/27	10/31	11/04
28	10/12	10/19	10/24	10/28	11/01	11/03	11/06	11/10	11/16
24	10/26	11/01	11/04	11/07	11/11	11/15	11/19	11/24	11/30
20	11/05	11/10	11/15	11/19	11/23	11/27	12/01	12/04	12/10
16	11/13	11/20	11/26	11/29	12/02	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	188	181	176	171	167	163	158	154	147
32	210	203	197	193	188	184	180	174	167
28	231	224	219	214	210	205	201	195	187
24	256	247	241	236	231	226	221	215	208
20	278	270	264	258	253	248	242	237	229
16	298	289	283	278	273	268	263	257	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **LEXINGTON 3 NE, MO US**

GHCND:USC00234904
 Elev: 825 ft. Lat: 39.183° N Lon: 93.855° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/13	4/07
32	4/28	4/23	4/19	4/15	4/12	4/09	4/06	4/03	3/30
28	4/18	4/12	4/09	4/06	4/03	3/31	3/28	3/23	3/17
24	4/10	4/04	4/01	3/28	3/24	3/21	3/16	3/12	3/06
20	4/02	3/27	3/22	3/17	3/14	3/10	3/06	3/02	2/24
16	3/24	3/16	3/11	3/07	3/04	3/01	2/25	2/20	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/04	10/07	10/11	10/14	10/17	10/21	10/25
32	10/06	10/12	10/16	10/20	10/23	10/25	10/28	11/01	11/05
28	10/18	10/24	10/28	10/31	11/02	11/05	11/08	11/12	11/17
24	10/30	11/02	11/06	11/09	11/12	11/16	11/19	11/23	11/28
20	11/06	11/12	11/16	11/19	11/23	11/27	11/30	12/03	12/09
16	11/14	11/21	11/26	11/29	12/02	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	191	183	178	173	169	165	160	155	148
32	213	205	200	196	191	187	182	177	169
28	234	227	221	217	213	209	204	199	191
24	256	248	242	237	233	228	223	217	210
20	278	270	264	259	254	249	244	237	229
16	299	290	283	278	273	268	262	256	246

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **LEBANON 2 W, MO US**

GHCND:USC00234825
 Elev: 1279 ft. Lat: 37.685° N Lon: 92.694° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/07	5/04	5/01	4/29	4/27	4/24	4/20	4/14
32	5/03	4/29	4/26	4/22	4/19	4/16	4/12	4/08	4/02
28	4/23	4/19	4/14	4/11	4/08	4/05	4/02	3/29	3/23
24	4/15	4/09	4/05	4/02	3/30	3/26	3/22	3/18	3/13
20	4/05	3/31	3/26	3/22	3/18	3/15	3/10	3/06	2/28
16	3/26	3/20	3/15	3/10	3/06	3/02	2/27	2/22	2/16
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/28	10/01	10/05	10/08	10/11	10/16	10/22
32	9/28	10/03	10/09	10/13	10/17	10/20	10/24	10/28	11/02
28	10/09	10/16	10/21	10/24	10/27	10/31	11/02	11/06	11/11
24	10/21	10/27	10/31	11/02	11/05	11/09	11/12	11/17	11/24
20	10/31	11/04	11/09	11/13	11/17	11/21	11/25	11/30	12/06
16	11/08	11/16	11/20	11/25	11/29	12/02	12/05	12/11	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	172	166	161	157	153	148	143	135
32	203	195	189	184	179	174	169	163	155
28	223	216	210	205	201	196	191	186	178
24	244	236	230	225	220	215	210	205	197
20	268	259	252	247	242	237	231	225	216
16	292	283	276	271	265	260	255	248	239

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **KENNETT RADIO KBOA, MO US**

GHCND:USC00234417
 Elev: 270 ft. Lat: 36.225° N Lon: 90.075° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/24	4/19	4/16	4/13	4/10	4/08	4/04	4/01	3/27
32	4/15	4/10	4/07	4/04	4/01	3/29	3/25	3/21	3/17
28	4/06	4/01	3/28	3/24	3/20	3/17	3/13	3/09	3/04
24	3/25	3/19	3/15	3/11	3/07	3/04	3/01	2/25	2/18
20	3/13	3/06	3/02	2/27	2/24	2/20	2/15	2/09	2/02
16	3/02	2/25	2/20	2/15	2/10	2/06	2/02	1/28	1/17
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/06	10/11	10/14	10/17	10/20	10/23	10/26	10/31	11/04
32	10/14	10/20	10/24	10/27	10/30	11/02	11/05	11/09	11/15
28	10/24	10/31	11/03	11/06	11/10	11/14	11/18	11/23	12/01
24	11/04	11/10	11/15	11/20	11/25	11/30	12/03	12/07	12/16
20	11/16	11/26	12/01	12/04	12/08	12/12	12/17	12/23	12/30
16	12/01	12/07	12/11	12/16	12/21	12/25	12/30	1/04	1/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	212	205	200	196	192	188	184	179	172
32	233	225	220	216	211	207	202	197	190
28	260	251	244	239	234	229	224	218	210
24	288	279	273	267	261	255	249	243	234
20	316	307	300	294	288	283	276	269	259
16	340	330	323	317	311	306	300	293	283

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: JEFFERSON CITY MEMORIAL AIRPORT, MO US

GHCND:USW00003963
 Elev: 573 ft. Lat: 38.591° N Lon: 92.156° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	4/30	4/27	4/24	4/21	4/18	4/15	4/11	4/06
32	4/25	4/20	4/16	4/13	4/10	4/07	4/04	4/01	3/27
28	4/16	4/11	4/07	4/03	4/01	3/29	3/25	3/21	3/17
24	4/06	4/01	3/28	3/24	3/21	3/17	3/14	3/10	3/04
20	3/27	3/20	3/16	3/13	3/09	3/06	3/02	2/26	2/19
16	3/17	3/10	3/06	3/02	2/27	2/23	2/18	2/13	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/27	10/01	10/05	10/09	10/13	10/16	10/19	10/23	10/28
32	10/06	10/13	10/18	10/21	10/24	10/27	10/31	11/03	11/07
28	10/19	10/25	10/29	11/01	11/04	11/06	11/09	11/13	11/18
24	10/31	11/04	11/07	11/11	11/14	11/17	11/21	11/25	12/01
20	11/08	11/15	11/19	11/23	11/27	11/30	12/03	12/07	12/13
16	11/18	11/26	11/30	12/03	12/06	12/10	12/14	12/18	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	196	188	182	177	172	168	163	158	150
32	217	210	205	200	196	192	187	182	173
28	237	230	225	221	216	212	207	202	194
24	261	253	247	242	238	233	229	223	215
20	285	277	271	266	261	256	251	246	238
16	309	300	293	288	283	278	272	266	257

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BILLINGS 2 N, MO US**

GHCND:USC00230657
 Elev: 1332 ft. Lat: 37.054° N Lon: 93.575° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	5/01	4/30	4/27	4/24	4/20	4/17	4/12
32	4/30	4/25	4/21	4/18	4/15	4/12	4/09	4/05	3/31
28	4/20	4/14	4/11	4/08	4/05	4/02	3/31	3/26	3/21
24	4/11	4/06	4/03	3/31	3/27	3/23	3/19	3/15	3/09
20	4/03	3/28	3/23	3/18	3/14	3/10	3/06	3/02	2/24
16	3/22	3/15	3/09	3/05	3/01	2/26	2/22	2/17	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/03	10/06	10/09	10/12	10/15	10/19	10/24
32	10/03	10/09	10/14	10/17	10/20	10/23	10/26	10/30	11/04
28	10/14	10/19	10/23	10/27	10/31	11/02	11/05	11/09	11/15
24	10/23	10/30	11/02	11/06	11/10	11/13	11/17	11/21	11/27
20	11/03	11/09	11/14	11/18	11/21	11/25	11/29	12/03	12/09
16	11/13	11/20	11/26	11/30	12/02	12/05	12/10	12/14	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	178	173	169	165	160	156	151	143
32	208	201	195	191	186	182	177	172	165
28	229	222	216	212	208	203	199	193	186
24	253	244	238	232	228	223	218	212	204
20	277	269	262	257	251	246	240	234	225
16	302	293	286	280	275	269	264	257	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **UNION, MO US**

GHCND:USC00238515
 Elev: 540 ft. Lat: 38.444° N Lon: 91.004° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/02	4/29	4/27	4/24	4/20	4/16	4/12
32	4/30	4/26	4/22	4/19	4/16	4/13	4/09	4/05	3/31
28	4/20	4/15	4/11	4/08	4/04	4/01	3/30	3/25	3/20
24	4/10	4/04	4/01	3/29	3/24	3/20	3/17	3/13	3/08
20	3/31	3/24	3/19	3/15	3/12	3/09	3/05	3/01	2/24
16	3/18	3/12	3/08	3/04	2/28	2/26	2/21	2/16	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/01	10/04	10/07	10/10	10/13	10/17	10/22
32	10/02	10/07	10/12	10/15	10/19	10/22	10/25	10/29	11/02
28	10/13	10/20	10/24	10/28	10/31	11/03	11/06	11/09	11/15
24	10/26	11/01	11/05	11/08	11/12	11/16	11/20	11/24	11/30
20	11/05	11/12	11/17	11/22	11/26	11/29	12/02	12/06	12/12
16	11/17	11/26	12/01	12/03	12/06	12/10	12/14	12/19	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	183	176	171	166	162	158	153	148	141
32	207	199	194	189	185	180	176	170	163
28	229	222	217	213	208	204	199	194	186
24	256	247	242	236	232	227	222	216	208
20	281	273	266	261	256	250	245	239	230
16	305	296	290	284	279	274	269	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WARRENSBURG 4 NW, MO US**

GHCND:USC00238712
 Elev: 796 ft. Lat: 38.784° N Lon: 93.801° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/12	5/07	5/03	4/30	4/28	4/25	4/21	4/18	4/12
32	5/03	4/28	4/24	4/20	4/17	4/13	4/10	4/06	4/02
28	4/24	4/17	4/12	4/09	4/06	4/03	3/31	3/27	3/21
24	4/12	4/06	4/02	3/30	3/26	3/22	3/18	3/14	3/07
20	4/01	3/26	3/21	3/17	3/13	3/09	3/06	3/02	2/25
16	3/21	3/15	3/10	3/06	3/03	2/28	2/25	2/19	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	9/30	10/03	10/05	10/09	10/12	10/16	10/22
32	10/01	10/06	10/11	10/15	10/18	10/22	10/25	10/29	11/02
28	10/12	10/19	10/23	10/27	10/30	11/01	11/05	11/09	11/15
24	10/23	10/31	11/02	11/05	11/09	11/13	11/16	11/21	11/28
20	11/03	11/08	11/14	11/17	11/22	11/26	11/30	12/03	12/09
16	11/12	11/20	11/25	11/29	12/01	12/05	12/08	12/13	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	174	169	164	160	156	151	146	139
32	206	198	192	186	182	177	173	166	158
28	228	220	215	210	205	201	196	189	181
24	253	245	238	233	228	223	218	212	203
20	277	269	262	257	252	247	242	235	226
16	298	290	284	278	273	268	263	256	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: OZARK BEACH, MO US

GHCND:USC00236460
 Elev: 700 ft. Lat: 36.660° N Lon: 93.126° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/04	4/30	4/27	4/24	4/21	4/18	4/15	4/12	4/07
32	4/24	4/19	4/16	4/13	4/10	4/06	4/03	3/31	3/25
28	4/14	4/09	4/05	4/02	3/30	3/25	3/22	3/18	3/12
24	4/04	3/29	3/23	3/19	3/15	3/12	3/08	3/03	2/27
20	3/22	3/14	3/09	3/05	3/01	2/26	2/22	2/17	2/10
16	3/09	3/02	2/26	2/21	2/17	2/13	2/08	2/03	1/27
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/07	10/11	10/14	10/17	10/20	10/23	10/27	11/01
32	10/12	10/18	10/22	10/26	10/29	11/01	11/03	11/07	11/13
28	10/24	10/30	11/02	11/06	11/09	11/13	11/17	11/21	11/27
24	11/04	11/10	11/15	11/19	11/22	11/25	11/29	12/02	12/09
20	11/15	11/22	11/27	12/01	12/03	12/07	12/11	12/16	12/23
16	11/25	12/01	12/05	12/10	12/15	12/20	12/25	12/30	1/07
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	200	193	188	183	179	175	171	166	159
32	223	216	211	206	202	198	193	188	180
28	249	241	234	229	224	220	215	209	201
24	275	266	260	255	250	245	239	233	224
20	302	293	286	281	276	270	265	258	249
16	327	317	310	304	299	293	287	280	270

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST CHARLES 7 SSW, MO US**

GHCND:USC00237398
 Elev: 450 ft. Lat: 38.686° N Lon: 90.523° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/30	4/26	4/23	4/20	4/17	4/14	4/11	4/08	4/03
32	4/21	4/16	4/12	4/09	4/07	4/04	4/01	3/29	3/23
28	4/11	4/06	4/03	3/31	3/28	3/24	3/20	3/16	3/11
24	4/02	3/28	3/23	3/19	3/16	3/13	3/10	3/05	3/01
20	3/23	3/18	3/13	3/10	3/06	3/03	2/28	2/24	2/17
16	3/15	3/09	3/04	3/01	2/27	2/22	2/18	2/12	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/05	10/09	10/12	10/15	10/18	10/21	10/24	10/29
32	10/10	10/16	10/20	10/24	10/27	10/30	11/01	11/05	11/11
28	10/22	10/28	11/01	11/04	11/07	11/11	11/15	11/19	11/26
24	11/04	11/09	11/14	11/17	11/21	11/25	11/29	12/02	12/08
20	11/13	11/21	11/25	11/29	12/02	12/05	12/09	12/13	12/19
16	11/25	12/01	12/04	12/07	12/10	12/14	12/18	12/22	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	201	194	189	184	180	176	172	167	161
32	223	216	211	206	202	198	193	188	181
28	248	240	235	230	225	221	216	210	202
24	273	265	259	254	249	244	239	233	225
20	294	286	280	275	270	265	260	254	246
16	314	305	299	293	288	283	278	272	263

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: LAMAR 2 W, MO US

GHCND:USC00234705
 Elev: 996 ft. Lat: 37.493° N Lon: 94.315° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/30	4/26	4/23	4/21	4/18	4/14	4/11	4/05
32	4/25	4/20	4/16	4/13	4/10	4/07	4/04	4/01	3/26
28	4/14	4/10	4/06	4/04	4/01	3/29	3/25	3/21	3/15
24	4/05	4/01	3/29	3/24	3/20	3/16	3/12	3/08	3/01
20	3/26	3/20	3/15	3/11	3/07	3/03	2/28	2/22	2/15
16	3/17	3/10	3/05	3/01	2/26	2/21	2/15	2/09	2/02
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/29	10/03	10/08	10/11	10/15	10/18	10/22	10/25	10/31
32	10/08	10/15	10/20	10/23	10/27	10/30	11/01	11/05	11/11
28	10/19	10/27	11/01	11/03	11/06	11/10	11/14	11/19	11/25
24	11/01	11/05	11/10	11/15	11/19	11/23	11/28	12/01	12/07
20	11/09	11/17	11/23	11/27	12/01	12/03	12/07	12/12	12/18
16	11/22	11/29	12/02	12/06	12/10	12/14	12/18	12/22	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	198	191	185	181	177	172	168	162	155
32	221	213	208	203	199	194	190	184	176
28	245	236	230	225	220	216	211	205	197
24	270	261	255	249	244	239	234	227	218
20	295	285	278	273	267	262	256	249	240
16	316	306	299	293	288	282	276	269	260

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: WINDSOR, MO US

GHCND:USC00239032
 Elev: 840 ft. Lat: 38.532° N Lon: 93.524° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/04	4/30	4/28	4/24	4/21	4/17	4/14	4/10	4/05
32	4/25	4/20	4/16	4/13	4/10	4/07	4/04	3/31	3/26
28	4/17	4/11	4/07	4/04	4/01	3/30	3/26	3/22	3/16
24	4/07	4/02	3/29	3/26	3/22	3/18	3/15	3/10	3/03
20	3/28	3/22	3/18	3/15	3/11	3/07	3/03	2/28	2/20
16	3/20	3/14	3/09	3/05	3/01	2/26	2/22	2/16	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/02	10/07	10/10	10/14	10/17	10/20	10/24	10/29
32	10/07	10/13	10/18	10/22	10/25	10/28	11/01	11/03	11/08
28	10/19	10/25	10/30	11/01	11/04	11/07	11/11	11/15	11/21
24	10/30	11/03	11/07	11/11	11/15	11/18	11/22	11/27	12/02
20	11/07	11/14	11/18	11/22	11/26	11/29	12/02	12/06	12/12
16	11/17	11/24	11/29	12/01	12/04	12/08	12/12	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	189	184	179	175	170	166	160	153
32	217	210	205	201	196	192	187	182	175
28	239	231	225	221	216	212	207	202	194
24	263	254	248	243	238	233	228	222	214
20	284	276	269	264	259	255	249	244	235
16	305	295	289	283	278	273	268	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WARRENTON, MO US**

GHCND:USC00238725
 Elev: 827 ft. Lat: 38.835° N Lon: 91.139° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/07	5/03	4/30	4/27	4/24	4/20	4/16	4/11
32	5/01	4/26	4/23	4/19	4/15	4/12	4/08	4/05	3/31
28	4/21	4/15	4/11	4/07	4/04	4/01	3/29	3/24	3/19
24	4/12	4/06	4/02	3/29	3/25	3/21	3/17	3/14	3/08
20	4/02	3/26	3/21	3/17	3/13	3/10	3/06	3/02	2/25
16	3/21	3/14	3/09	3/05	3/02	2/28	2/24	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/28	10/01	10/05	10/08	10/11	10/14	10/18	10/22
32	10/02	10/08	10/13	10/16	10/19	10/22	10/25	10/29	11/02
28	10/14	10/20	10/25	10/29	11/01	11/03	11/06	11/10	11/16
24	10/28	11/01	11/05	11/08	11/11	11/15	11/18	11/23	11/30
20	11/05	11/11	11/16	11/20	11/23	11/27	12/01	12/05	12/12
16	11/14	11/21	11/26	11/29	12/02	12/06	12/11	12/16	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	172	167	162	158	153	147	140
32	208	201	196	191	186	182	177	171	163
28	232	224	218	214	210	205	200	195	187
24	255	247	241	235	230	226	221	215	207
20	279	271	264	259	254	249	244	237	228
16	301	292	286	280	275	270	265	258	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **POTOSI, MO US**

GHCND:USC00236826
 Elev: 1105 ft. Lat: 37.896° N Lon: 90.841° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/02	4/30	4/27	4/23	4/20	4/16	4/09
32	4/30	4/25	4/21	4/17	4/14	4/10	4/07	4/03	3/29
28	4/18	4/12	4/08	4/05	4/02	3/31	3/27	3/23	3/18
24	4/09	4/03	3/31	3/27	3/23	3/20	3/16	3/12	3/07
20	3/31	3/24	3/20	3/16	3/13	3/09	3/06	3/02	2/24
16	3/19	3/14	3/09	3/05	3/02	2/28	2/23	2/18	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/03	10/06	10/10	10/14	10/18	10/22	10/27
32	10/04	10/11	10/16	10/20	10/24	10/27	10/30	11/03	11/07
28	10/17	10/23	10/28	11/01	11/03	11/06	11/09	11/13	11/18
24	10/28	11/02	11/06	11/10	11/13	11/16	11/20	11/25	12/01
20	11/07	11/13	11/17	11/22	11/26	11/29	12/02	12/06	12/12
16	11/16	11/24	11/29	12/01	12/05	12/09	12/13	12/18	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	181	175	170	166	161	156	151	143
32	214	206	200	195	190	185	180	174	166
28	235	228	223	218	213	209	204	198	190
24	258	250	244	239	234	229	224	218	210
20	282	273	267	262	257	252	247	241	232
16	305	296	289	284	278	273	268	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **DONIPHAN, MO US**

GHCND:USC00232289
 Elev: 289 ft. Lat: 36.620° N Lon: 90.812° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/07	5/03	4/30	4/28	4/25	4/21	4/18	4/13
32	5/01	4/28	4/24	4/20	4/17	4/14	4/11	4/06	3/31
28	4/22	4/17	4/13	4/10	4/07	4/04	3/31	3/27	3/21
24	4/13	4/08	4/04	3/31	3/28	3/24	3/19	3/14	3/07
20	4/04	3/30	3/24	3/20	3/15	3/10	3/05	3/01	2/22
16	3/24	3/17	3/10	3/05	2/28	2/25	2/19	2/13	2/04
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/02	10/05	10/08	10/11	10/14	10/18	10/23
32	10/03	10/08	10/12	10/15	10/18	10/22	10/25	10/29	11/03
28	10/11	10/18	10/22	10/26	10/30	11/01	11/04	11/09	11/15
24	10/22	10/29	11/01	11/05	11/09	11/14	11/18	11/23	11/30
20	11/01	11/08	11/14	11/19	11/24	11/28	12/01	12/05	12/12
16	11/13	11/22	11/29	12/01	12/05	12/09	12/14	12/20	12/27
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	172	167	163	159	155	150	142
32	206	198	193	188	184	180	175	169	163
28	229	220	214	210	205	200	195	190	183
24	255	246	239	233	227	222	216	210	202
20	282	272	265	258	253	247	241	233	223
16	310	300	292	285	279	273	267	259	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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 Service

**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **DORA 1 N, MO US**

GHCND:USC00232302
 Elev: 1011 ft. Lat: 36.790° N Lon: 92.219° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/17	5/11	5/06	5/03	4/30	4/27	4/24	4/20	4/15
32	5/05	4/30	4/26	4/23	4/19	4/15	4/12	4/07	4/02
28	4/23	4/18	4/13	4/10	4/06	4/03	3/31	3/27	3/22
24	4/12	4/06	4/02	3/30	3/27	3/23	3/19	3/16	3/10
20	4/02	3/26	3/22	3/17	3/14	3/10	3/06	3/02	2/24
16	3/20	3/14	3/08	3/04	2/28	2/25	2/21	2/16	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	9/30	10/02	10/05	10/07	10/10	10/13	10/18
32	9/30	10/04	10/07	10/10	10/13	10/16	10/20	10/23	10/29
28	10/07	10/13	10/17	10/21	10/24	10/27	11/01	11/04	11/10
24	10/17	10/23	10/28	11/01	11/04	11/08	11/12	11/17	11/24
20	10/29	11/04	11/08	11/14	11/18	11/22	11/26	12/01	12/05
16	11/09	11/17	11/22	11/27	12/01	12/03	12/07	12/11	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	170	165	160	156	152	147	142	134
32	200	192	186	182	177	172	168	162	154
28	223	215	209	205	200	196	191	185	177
24	248	239	233	228	223	218	212	206	198
20	274	266	259	253	248	242	236	230	220
16	299	291	284	278	273	268	262	255	245

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WAPPAPELLO DAM, MO US**

GHCND:USC00238700
 Elev: 410 ft. Lat: 36.923° N Lon: 90.284° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/29	4/24	4/20	4/17	4/14	4/11	4/09	4/05	3/31
32	4/18	4/13	4/10	4/07	4/04	4/01	3/29	3/25	3/20
28	4/09	4/03	3/31	3/27	3/23	3/20	3/16	3/12	3/07
24	3/28	3/22	3/18	3/14	3/11	3/07	3/04	3/01	2/23
20	3/18	3/12	3/07	3/04	3/01	2/26	2/22	2/16	2/09
16	3/08	3/02	2/27	2/22	2/18	2/14	2/09	2/04	1/30
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/07	10/12	10/16	10/19	10/21	10/24	10/27	10/31	11/04
32	10/17	10/22	10/25	10/29	11/01	11/03	11/06	11/10	11/16
28	10/26	11/01	11/04	11/08	11/11	11/15	11/18	11/23	11/29
24	11/03	11/09	11/14	11/18	11/22	11/26	12/01	12/04	12/10
20	11/13	11/21	11/26	11/30	12/03	12/07	12/11	12/16	12/23
16	11/26	12/01	12/06	12/10	12/14	12/19	12/24	12/29	1/04
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	211	203	198	194	190	185	181	176	169
32	231	224	219	215	211	207	202	197	190
28	254	247	241	236	232	227	223	217	209
24	279	271	265	260	254	250	244	238	230
20	303	294	288	282	277	272	266	259	250
16	326	317	310	304	299	294	288	281	271

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **FREEDOM, MO US**

GHCND:USC00233043
 Elev: 805 ft. Lat: 38.458° N Lon: 91.703° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/15	5/09	5/05	5/02	4/30	4/27	4/23	4/19	4/13
32	5/04	4/30	4/26	4/22	4/18	4/15	4/11	4/07	4/01
28	4/26	4/19	4/14	4/11	4/07	4/03	3/31	3/27	3/21
24	4/15	4/09	4/04	3/31	3/28	3/24	3/19	3/15	3/09
20	4/05	3/30	3/25	3/20	3/16	3/13	3/09	3/04	2/27
16	3/26	3/19	3/14	3/09	3/06	3/02	2/28	2/22	2/15
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/25	9/29	10/01	10/04	10/07	10/10	10/14	10/19
32	9/28	10/03	10/06	10/11	10/14	10/18	10/21	10/25	10/30
28	10/06	10/13	10/18	10/22	10/26	10/29	11/01	11/05	11/11
24	10/17	10/25	10/30	11/02	11/06	11/09	11/13	11/17	11/25
20	10/29	11/04	11/08	11/13	11/17	11/22	11/26	12/01	12/06
16	11/07	11/15	11/21	11/26	11/30	12/03	12/07	12/12	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	165	161	156	152	148	142	135
32	201	193	187	182	178	173	168	161	153
28	224	216	210	204	200	195	190	183	174
24	248	239	232	227	222	217	211	204	196
20	271	262	256	250	245	239	233	226	217
16	294	285	279	273	268	262	256	249	239

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: JOPLIN REGIONAL AIRPORT, MO US

GHCND:USW00013987
 Elev: 980 ft. Lat: 37.147° N Lon: 94.502° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/04	4/30	4/27	4/23	4/20	4/16	4/13	4/09	4/04
32	4/25	4/19	4/15	4/12	4/08	4/05	4/02	3/29	3/24
28	4/14	4/08	4/04	4/01	3/29	3/25	3/21	3/17	3/10
24	4/04	3/30	3/25	3/21	3/17	3/13	3/08	3/03	2/25
20	3/23	3/17	3/12	3/07	3/03	2/28	2/24	2/18	2/11
16	3/13	3/06	3/02	2/26	2/21	2/17	2/12	2/05	1/30
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/03	10/08	10/12	10/15	10/19	10/22	10/26	10/31
32	10/07	10/15	10/20	10/23	10/27	10/30	11/02	11/05	11/11
28	10/19	10/26	10/30	11/02	11/06	11/09	11/13	11/17	11/23
24	10/30	11/04	11/09	11/14	11/18	11/22	11/26	11/30	12/05
20	11/07	11/16	11/22	11/26	11/30	12/02	12/06	12/11	12/17
16	11/20	11/28	12/01	12/05	12/09	12/13	12/17	12/22	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	200	193	187	182	177	173	168	162	154
32	223	215	209	204	199	195	190	184	176
28	247	238	232	227	222	216	211	205	197
24	273	263	257	251	246	241	235	228	219
20	297	288	281	275	270	264	258	251	242
16	319	310	302	296	290	285	279	272	262

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **NEW FRANKLIN 1 W, MO US**

GHCND:USC00236012
 Elev: 641 ft. Lat: 39.017° N Lon: 92.756° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/03	4/30	4/28	4/26	4/23	4/20	4/17	4/11
32	4/29	4/24	4/21	4/18	4/15	4/12	4/09	4/06	4/01
28	4/20	4/15	4/11	4/08	4/05	4/03	3/31	3/26	3/20
24	4/11	4/06	4/02	3/30	3/26	3/22	3/18	3/14	3/09
20	4/02	3/27	3/21	3/17	3/14	3/11	3/07	3/03	2/26
16	3/20	3/14	3/10	3/06	3/03	2/28	2/25	2/21	2/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	10/01	10/03	10/06	10/09	10/12	10/16	10/20
32	10/01	10/06	10/11	10/15	10/18	10/21	10/24	10/28	11/01
28	10/13	10/20	10/24	10/27	10/31	11/02	11/05	11/08	11/14
24	10/25	11/01	11/03	11/06	11/09	11/13	11/17	11/21	11/28
20	11/04	11/09	11/14	11/17	11/21	11/25	11/29	12/03	12/09
16	11/13	11/19	11/24	11/28	12/01	12/04	12/08	12/13	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	175	170	166	162	158	153	148	141
32	206	198	193	188	184	179	175	170	162
28	228	221	215	211	207	202	197	192	184
24	252	244	238	233	228	223	218	212	205
20	276	267	261	256	251	246	241	235	226
16	297	289	282	277	273	267	262	256	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **FARMINGTON, MO US**

GHCND:USC00232809
 Elev: 928 ft. Lat: 37.792° N Lon: 90.410° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/02	4/29	4/26	4/23	4/20	4/16	4/10
32	4/29	4/25	4/20	4/17	4/14	4/11	4/07	4/03	3/29
28	4/19	4/13	4/09	4/05	4/02	3/31	3/27	3/23	3/17
24	4/09	4/03	3/31	3/26	3/22	3/19	3/16	3/12	3/06
20	3/30	3/23	3/18	3/14	3/11	3/07	3/03	2/28	2/21
16	3/17	3/11	3/06	3/02	2/28	2/24	2/20	2/14	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	10/01	10/04	10/06	10/09	10/13	10/16	10/22
32	9/30	10/05	10/10	10/14	10/17	10/20	10/24	10/28	11/02
28	10/10	10/18	10/22	10/26	10/30	11/01	11/04	11/08	11/14
24	10/23	10/30	11/02	11/06	11/09	11/13	11/17	11/23	11/29
20	11/02	11/09	11/14	11/19	11/24	11/28	12/01	12/04	12/11
16	11/14	11/23	11/29	12/01	12/05	12/08	12/13	12/18	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	176	171	166	162	157	153	147	140
32	208	200	194	189	185	180	175	169	162
28	230	223	217	212	208	203	198	192	184
24	255	247	241	235	230	225	220	214	205
20	281	272	266	260	255	250	244	237	228
16	307	298	291	286	280	275	269	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **GALENA, MO US**

GHCND:USC00233094
 Elev: 1046 ft. Lat: 36.806° N Lon: 93.466° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/14	5/08	5/05	5/02	4/30	4/27	4/24	4/20	4/15
32	5/03	4/29	4/26	4/23	4/19	4/16	4/13	4/09	4/03
28	4/24	4/19	4/15	4/12	4/09	4/06	4/02	3/30	3/24
24	4/15	4/10	4/06	4/02	3/31	3/27	3/22	3/18	3/12
20	4/06	3/31	3/26	3/22	3/18	3/14	3/09	3/04	2/27
16	3/25	3/18	3/13	3/09	3/04	3/01	2/26	2/20	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	10/01	10/04	10/06	10/09	10/12	10/16	10/22
32	10/01	10/06	10/11	10/14	10/17	10/21	10/24	10/28	11/02
28	10/12	10/17	10/21	10/25	10/28	11/01	11/03	11/06	11/12
24	10/21	10/27	11/01	11/03	11/06	11/09	11/13	11/17	11/23
20	10/31	11/05	11/10	11/14	11/18	11/22	11/26	12/01	12/05
16	11/09	11/18	11/23	11/27	12/01	12/03	12/07	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	173	167	163	158	154	150	144	137
32	203	195	189	185	180	175	171	165	158
28	223	215	210	206	201	196	192	186	179
24	245	236	230	226	221	216	211	205	197
20	270	261	254	249	244	238	233	226	217
16	296	286	280	274	269	264	257	250	241

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WAYNESVILLE 2 W, MO US**

GHCND:USC00238777
 Elev: 890 ft. Lat: 37.813° N Lon: 92.232° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/20	5/14	5/10	5/07	5/04	5/01	4/29	4/26	4/21
32	5/09	5/04	5/01	4/29	4/26	4/23	4/19	4/15	4/09
28	5/01	4/26	4/22	4/18	4/15	4/11	4/08	4/03	3/29
24	4/20	4/14	4/10	4/06	4/03	3/31	3/28	3/23	3/18
20	4/10	4/04	3/31	3/28	3/24	3/20	3/16	3/11	3/05
16	3/31	3/25	3/20	3/16	3/12	3/08	3/04	2/28	2/22
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/16	9/21	9/24	9/27	9/30	10/02	10/05	10/08	10/13
32	9/24	9/29	10/01	10/05	10/07	10/11	10/15	10/19	10/24
28	10/02	10/08	10/13	10/17	10/20	10/24	10/27	11/01	11/05
24	10/13	10/21	10/25	10/29	11/01	11/04	11/07	11/11	11/17
20	10/26	11/01	11/04	11/08	11/12	11/15	11/20	11/24	11/30
16	11/05	11/11	11/16	11/21	11/25	11/29	12/02	12/05	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	158	153	149	145	141	137	132	126
32	187	179	174	169	164	160	155	150	143
28	210	203	197	192	187	182	177	171	163
24	233	225	220	215	210	205	200	194	186
20	257	248	242	237	232	227	222	216	208
16	281	273	266	260	255	250	245	238	229

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BETHANY, MO US**

GHCND:USC00230608
 Elev: 949 ft. Lat: 40.258° N Lon: 94.027° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/03	5/01	4/29	4/26	4/23	4/19	4/15
32	5/01	4/27	4/23	4/21	4/18	4/15	4/12	4/08	4/04
28	4/22	4/17	4/14	4/11	4/09	4/06	4/03	3/31	3/26
24	4/14	4/09	4/06	4/03	4/01	3/30	3/26	3/22	3/17
20	4/06	4/02	3/30	3/26	3/23	3/20	3/16	3/12	3/06
16	3/30	3/24	3/20	3/17	3/13	3/10	3/06	3/03	2/26
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/28	10/01	10/03	10/06	10/10	10/13	10/19
32	9/29	10/03	10/08	10/12	10/15	10/18	10/22	10/25	10/29
28	10/09	10/16	10/20	10/24	10/27	10/30	11/01	11/04	11/10
24	10/21	10/27	11/01	11/02	11/05	11/08	11/12	11/15	11/21
20	11/01	11/05	11/09	11/12	11/15	11/18	11/22	11/27	12/02
16	11/08	11/13	11/17	11/21	11/25	11/29	12/01	12/05	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	170	165	161	156	153	148	144	136
32	199	192	187	182	178	174	170	165	158
28	219	212	207	203	199	195	191	186	179
24	239	232	227	222	218	214	209	204	197
20	260	252	246	242	237	233	228	223	216
16	280	271	266	260	256	251	246	241	233

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ARCADIA, MO US**

GHCND:USC00230224
 Elev: 918 ft. Lat: 37.598° N Lon: 90.626° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/21	5/14	5/10	5/06	5/03	4/30	4/28	4/24	4/19
32	5/08	5/03	4/30	4/26	4/23	4/20	4/16	4/12	4/07
28	4/27	4/22	4/18	4/15	4/11	4/08	4/05	3/31	3/26
24	4/16	4/11	4/07	4/03	3/31	3/29	3/24	3/20	3/14
20	4/06	3/31	3/28	3/23	3/19	3/16	3/12	3/08	3/03
16	3/26	3/20	3/16	3/12	3/08	3/05	3/02	2/26	2/20
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/23	9/27	9/30	10/02	10/05	10/08	10/11	10/16
32	9/25	10/01	10/04	10/07	10/11	10/14	10/18	10/22	10/27
28	10/04	10/11	10/15	10/20	10/23	10/27	10/31	11/03	11/08
24	10/16	10/24	10/30	11/01	11/05	11/08	11/12	11/16	11/24
20	10/29	11/04	11/09	11/13	11/17	11/21	11/26	12/01	12/06
16	11/05	11/15	11/21	11/26	12/01	12/04	12/07	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	171	163	158	154	149	145	140	135	127
32	193	185	180	175	170	165	160	155	147
28	218	210	204	198	194	189	184	178	170
24	243	234	228	223	218	213	208	202	193
20	267	259	252	247	241	236	230	224	215
16	292	283	276	271	265	260	254	247	236

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **OLDFIELD, MO US**

GHCND:USC00236302
 Elev: 1240 ft. Lat: 36.976° N Lon: 93.024° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/20	5/14	5/10	5/06	5/03	4/30	4/28	4/25	4/20
32	5/08	5/03	4/30	4/27	4/24	4/21	4/18	4/14	4/09
28	4/27	4/23	4/19	4/16	4/13	4/10	4/07	4/03	3/29
24	4/18	4/13	4/09	4/06	4/03	3/31	3/28	3/24	3/17
20	4/08	4/03	3/31	3/27	3/23	3/20	3/16	3/11	3/05
16	3/31	3/24	3/20	3/16	3/11	3/07	3/04	2/28	2/22
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/17	9/22	9/25	9/28	10/01	10/03	10/06	10/09	10/13
32	9/25	9/30	10/03	10/06	10/09	10/12	10/15	10/19	10/25
28	10/05	10/11	10/14	10/18	10/21	10/25	10/28	11/01	11/07
24	10/16	10/22	10/26	10/30	11/02	11/06	11/10	11/14	11/20
20	10/27	11/02	11/06	11/11	11/15	11/19	11/23	11/27	12/02
16	11/08	11/15	11/20	11/24	11/28	12/01	12/03	12/07	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	168	161	156	151	147	143	139	134	127
32	190	182	177	172	168	164	159	154	147
28	213	206	200	195	191	186	182	177	169
24	236	228	223	218	213	208	204	198	191
20	260	252	246	240	235	230	226	219	211
16	284	275	269	264	259	254	249	242	234

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **STEFFENVILLE, MO US**

GHCND:USC00238051
 Elev: 690 ft. Lat: 39.971° N Lon: 91.887° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	5/01	4/28	4/25	4/22	4/19	4/15	4/10
32	4/30	4/24	4/20	4/17	4/14	4/11	4/08	4/05	3/31
28	4/20	4/14	4/10	4/07	4/04	4/02	3/30	3/26	3/20
24	4/10	4/05	4/01	3/30	3/26	3/22	3/19	3/14	3/09
20	3/31	3/26	3/22	3/18	3/15	3/11	3/08	3/04	2/28
16	3/21	3/16	3/12	3/08	3/05	3/02	2/28	2/24	2/17
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/27	10/01	10/04	10/07	10/10	10/14	10/18	10/23
32	10/01	10/07	10/12	10/16	10/19	10/22	10/26	10/30	11/03
28	10/14	10/20	10/25	10/28	11/01	11/03	11/05	11/09	11/14
24	10/27	11/01	11/04	11/07	11/10	11/13	11/17	11/22	11/27
20	11/05	11/10	11/14	11/18	11/22	11/26	11/29	12/03	12/08
16	11/13	11/20	11/25	11/28	12/01	12/04	12/07	12/12	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	178	173	168	164	159	155	150	142
32	208	201	196	191	186	182	177	171	164
28	230	222	217	212	208	204	200	194	186
24	252	244	238	233	229	224	219	213	206
20	275	267	260	255	250	246	241	235	226
16	293	285	279	275	270	266	260	254	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **PORTAGEVILLE, MO US**

GHCND:USC00236804
 Elev: 280 ft. Lat: 36.414° N Lon: 89.700° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/21	4/17	4/13	4/10	4/07	4/04	4/01	3/29	3/23
32	4/11	4/07	4/03	3/31	3/28	3/24	3/20	3/16	3/10
28	4/01	3/27	3/22	3/18	3/14	3/11	3/06	3/02	2/25
24	3/20	3/14	3/09	3/04	3/01	2/26	2/21	2/17	2/08
20	3/08	3/01	2/26	2/21	2/17	2/13	2/08	2/03	1/28
16	2/27	2/20	2/15	2/10	2/06	2/03	1/31	1/24	1/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/09	10/14	10/18	10/22	10/25	10/28	11/01	11/04	11/10
32	10/19	10/25	10/30	11/02	11/05	11/09	11/13	11/17	11/24
28	10/31	11/05	11/10	11/15	11/19	11/23	11/27	12/01	12/08
24	11/11	11/19	11/25	11/30	12/03	12/06	12/11	12/16	12/23
20	11/25	12/01	12/06	12/10	12/14	12/19	12/25	12/30	1/06
16	12/05	12/11	12/16	12/21	12/26	12/31	1/04	1/11	1/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	221	214	209	204	200	196	191	186	179
32	247	239	233	228	223	218	213	208	200
28	276	267	260	255	249	244	238	231	222
24	304	295	288	282	276	271	265	258	248
20	328	319	312	306	301	295	289	282	271
16	351	337	331	326	320	315	309	303	293

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ELSBERRY 1 S, MO US**

GHCND:USC00232591
 Elev: 450 ft. Lat: 39.151° N Lon: 90.785° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/07	5/04	5/01	4/28	4/26	4/23	4/19	4/14
32	5/02	4/28	4/25	4/21	4/18	4/14	4/11	4/07	4/02
28	4/21	4/17	4/13	4/09	4/06	4/03	3/31	3/27	3/22
24	4/12	4/06	4/02	3/30	3/27	3/24	3/20	3/16	3/11
20	4/01	3/27	3/22	3/19	3/16	3/12	3/09	3/04	2/27
16	3/21	3/16	3/12	3/09	3/05	3/02	2/27	2/22	2/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	9/30	10/03	10/05	10/09	10/12	10/15	10/20
32	10/01	10/06	10/11	10/14	10/17	10/20	10/23	10/26	10/30
28	10/12	10/18	10/22	10/25	10/28	11/01	11/03	11/07	11/13
24	10/23	10/30	11/02	11/05	11/09	11/12	11/16	11/21	11/27
20	11/04	11/09	11/14	11/18	11/22	11/26	11/30	12/03	12/09
16	11/14	11/21	11/26	11/30	12/02	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	172	167	163	158	154	150	145	137
32	203	196	190	185	181	177	172	166	159
28	226	218	213	209	205	200	195	190	183
24	249	242	236	231	226	222	217	211	203
20	275	266	260	255	250	245	240	234	226
16	297	288	282	276	271	267	262	255	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **AMITY 4 NE, MO US**

GHCND:USC00230143
 Elev: 974 ft. Lat: 39.891° N Lon: 94.360° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/02	4/30	4/27	4/25	4/22	4/18	4/14
32	5/01	4/27	4/23	4/20	4/17	4/14	4/11	4/08	4/03
28	4/22	4/17	4/13	4/10	4/07	4/05	4/02	3/31	3/25
24	4/14	4/09	4/06	4/03	3/31	3/29	3/25	3/20	3/14
20	4/08	4/02	3/30	3/25	3/21	3/18	3/14	3/10	3/04
16	3/31	3/23	3/18	3/15	3/11	3/08	3/04	3/01	2/22
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/25	9/28	10/01	10/05	10/08	10/11	10/15	10/20
32	9/29	10/04	10/09	10/13	10/16	10/20	10/23	10/27	10/31
28	10/09	10/16	10/21	10/24	10/28	11/01	11/03	11/06	11/11
24	10/21	10/28	11/01	11/04	11/07	11/10	11/14	11/17	11/23
20	11/02	11/06	11/10	11/14	11/17	11/21	11/25	11/29	12/04
16	11/09	11/15	11/19	11/24	11/27	12/01	12/03	12/07	12/13
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	173	168	163	159	155	150	145	138
32	202	195	189	185	181	176	171	166	158
28	222	215	210	205	201	197	192	187	179
24	243	235	229	225	220	216	212	206	198
20	265	257	251	246	241	236	231	225	217
16	285	277	271	265	260	255	250	244	235

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: GRANT CITY, MO US

GHCND:USC00233369
 Elev: 1130 ft. Lat: 40.486° N Lon: 94.414° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/17	5/10	5/06	5/03	5/01	4/29	4/26	4/24	4/20
32	5/06	5/01	4/29	4/26	4/24	4/21	4/18	4/15	4/11
28	4/28	4/23	4/20	4/17	4/14	4/12	4/09	4/06	4/02
24	4/20	4/15	4/12	4/09	4/06	4/04	4/01	3/29	3/23
20	4/13	4/09	4/05	4/02	3/30	3/27	3/23	3/18	3/12
16	4/05	3/31	3/27	3/23	3/19	3/16	3/12	3/07	3/02
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/17	9/21	9/24	9/26	9/28	10/01	10/03	10/07	10/12
32	9/24	9/28	10/01	10/05	10/08	10/11	10/14	10/18	10/22
28	10/02	10/08	10/12	10/15	10/19	10/22	10/25	10/28	11/02
24	10/13	10/19	10/23	10/26	10/30	11/01	11/04	11/08	11/13
20	10/22	10/29	11/01	11/04	11/07	11/11	11/14	11/17	11/23
16	11/02	11/06	11/10	11/13	11/16	11/20	11/24	11/28	12/03
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	166	160	156	152	148	145	140	136	129
32	185	179	174	170	166	162	158	153	147
28	205	198	193	189	185	181	177	172	165
24	225	218	213	208	205	200	196	191	184
20	245	237	231	227	222	218	213	208	200
16	266	258	252	247	242	238	233	227	219

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **POMME DE TERRE DAM, MO US**

GHCND:USC00236777
 Elev: 900 ft. Lat: 37.905° N Lon: 93.317° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	5/01	4/28	4/25	4/22	4/18	4/15	4/09
32	4/30	4/24	4/20	4/16	4/13	4/10	4/07	4/03	3/29
28	4/17	4/12	4/08	4/05	4/02	3/31	3/28	3/23	3/17
24	4/08	4/03	3/31	3/27	3/23	3/19	3/15	3/11	3/05
20	3/30	3/23	3/18	3/15	3/11	3/08	3/04	2/28	2/22
16	3/21	3/14	3/10	3/05	3/02	2/27	2/22	2/18	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/03	10/06	10/10	10/14	10/17	10/21	10/26
32	10/03	10/09	10/14	10/18	10/22	10/25	10/29	11/01	11/07
28	10/15	10/21	10/26	10/31	11/02	11/05	11/09	11/14	11/19
24	10/27	11/02	11/06	11/10	11/14	11/18	11/22	11/27	12/02
20	11/06	11/13	11/18	11/22	11/26	11/29	12/02	12/06	12/13
16	11/16	11/23	11/28	12/01	12/04	12/08	12/12	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	182	176	171	167	162	158	152	144
32	213	205	199	194	190	185	179	173	165
28	237	228	222	217	212	208	203	197	188
24	262	253	246	241	236	231	225	219	211
20	284	275	269	264	259	254	248	242	233
16	304	295	288	283	278	272	267	261	252

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BROOKFIELD, MO US**

GHCND:USC00230980
 Elev: 767 ft. Lat: 39.765° N Lon: 93.059° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/02	4/30	4/28	4/25	4/22	4/19	4/14
32	5/01	4/27	4/24	4/21	4/18	4/16	4/12	4/09	4/04
28	4/22	4/18	4/14	4/11	4/08	4/06	4/03	3/31	3/25
24	4/14	4/09	4/06	4/03	4/01	3/29	3/25	3/20	3/15
20	4/07	4/02	3/30	3/25	3/21	3/18	3/14	3/09	3/03
16	3/29	3/22	3/17	3/14	3/10	3/06	3/03	2/28	2/21
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/26	9/29	10/03	10/06	10/09	10/12	10/16	10/21
32	9/30	10/05	10/10	10/14	10/17	10/20	10/23	10/27	10/31
28	10/12	10/18	10/22	10/25	10/28	10/31	11/02	11/05	11/10
24	10/23	10/30	11/01	11/03	11/06	11/09	11/13	11/16	11/22
20	11/02	11/06	11/09	11/13	11/16	11/20	11/25	11/29	12/04
16	11/08	11/14	11/19	11/24	11/27	12/01	12/04	12/08	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	173	168	164	160	155	151	146	138
32	200	194	189	184	180	176	171	166	158
28	221	214	209	205	201	197	193	187	180
24	242	234	229	224	220	215	211	206	199
20	265	257	251	245	240	236	231	225	217
16	286	277	271	266	260	255	250	244	236

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CARTHAGE 5 S, MO US**

GHCND:USC00231356
 Elev: 978 ft. Lat: 37.177° N Lon: 94.305° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/01	4/29	4/26	4/23	4/20	4/16	4/13	4/07
32	4/27	4/22	4/18	4/15	4/12	4/09	4/05	3/31	3/26
28	4/16	4/11	4/07	4/04	4/01	3/28	3/24	3/20	3/14
24	4/06	4/01	3/27	3/23	3/19	3/15	3/11	3/06	2/28
20	3/25	3/18	3/14	3/09	3/05	3/02	2/26	2/21	2/14
16	3/14	3/07	3/03	2/28	2/23	2/19	2/14	2/08	2/02
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/05	10/08	10/12	10/15	10/19	10/22	10/27
32	10/05	10/12	10/16	10/20	10/24	10/27	10/30	11/03	11/09
28	10/17	10/23	10/28	11/01	11/04	11/08	11/13	11/17	11/23
24	10/28	11/03	11/09	11/15	11/18	11/22	11/25	11/30	12/05
20	11/07	11/17	11/22	11/26	11/30	12/03	12/06	12/10	12/16
16	11/22	11/29	12/02	12/05	12/09	12/12	12/16	12/21	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	186	180	175	171	167	162	157	150
32	217	209	203	198	193	189	184	178	170
28	243	234	228	222	217	212	207	201	192
24	269	260	253	247	242	237	231	224	214
20	293	284	278	272	267	262	256	249	239
16	315	306	299	294	288	283	278	271	262

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CLEARWATER DAM, MO US**

GHCND:USC00231674
 Elev: 660 ft. Lat: 37.132° N Lon: 90.776° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/04	4/30	4/26	4/23	4/20	4/17	4/14	4/10	4/06
32	4/24	4/19	4/15	4/12	4/09	4/06	4/03	3/31	3/25
28	4/14	4/08	4/04	4/01	3/30	3/26	3/23	3/19	3/14
24	4/03	3/29	3/25	3/21	3/18	3/14	3/11	3/07	3/03
20	3/23	3/17	3/13	3/09	3/05	3/02	2/28	2/24	2/16
16	3/14	3/06	3/02	2/28	2/24	2/20	2/16	2/10	2/02
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/05	10/08	10/11	10/14	10/17	10/20	10/23	10/28
32	10/09	10/16	10/20	10/23	10/25	10/28	10/31	11/03	11/08
28	10/20	10/26	10/30	11/02	11/05	11/08	11/12	11/16	11/21
24	10/31	11/04	11/09	11/14	11/17	11/21	11/24	11/28	12/02
20	11/07	11/16	11/22	11/26	11/30	12/02	12/05	12/10	12/17
16	11/22	11/30	12/02	12/06	12/10	12/14	12/19	12/24	12/31
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	196	189	184	180	176	172	167	162	156
32	219	211	206	202	198	194	190	184	178
28	242	234	229	224	220	216	211	205	197
24	266	258	253	247	243	238	233	227	219
20	292	283	277	272	267	262	256	250	241
16	317	307	301	295	289	284	278	272	262

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **STEELVILLE 2 N, MO US**

GHCND:USC00238043
 Elev: 700 ft. Lat: 38.005° N Lon: 91.370° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/28	5/23	5/18	5/14	5/09	5/06	5/02	4/29	4/24
32	5/17	5/10	5/06	5/03	4/30	4/28	4/24	4/20	4/15
28	5/06	4/30	4/27	4/23	4/20	4/16	4/12	4/08	4/01
24	4/24	4/19	4/15	4/11	4/07	4/04	3/31	3/28	3/22
20	4/14	4/09	4/04	3/31	3/28	3/24	3/20	3/16	3/11
16	4/04	3/29	3/24	3/19	3/16	3/12	3/08	3/03	2/26
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/14	9/19	9/22	9/24	9/27	9/29	10/01	10/05	10/10
32	9/22	9/27	9/30	10/02	10/05	10/08	10/12	10/16	10/22
28	10/01	10/05	10/10	10/14	10/17	10/21	10/24	10/29	11/03
24	10/10	10/17	10/22	10/26	10/30	11/01	11/04	11/07	11/13
20	10/21	10/28	11/01	11/04	11/07	11/11	11/14	11/19	11/25
16	11/01	11/06	11/11	11/15	11/19	11/23	11/27	12/01	12/07
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	158	151	146	141	136	132	127	122	115
32	179	172	166	161	157	152	147	142	134
28	204	196	189	184	179	175	169	164	155
24	226	218	213	208	203	198	193	187	179
20	249	240	234	229	224	219	214	208	199
16	273	264	257	251	246	241	235	228	220

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ALTON 6 SE, MO US**

GHCND:USC00230127
 Elev: 810 ft. Lat: 36.630° N Lon: 91.304° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/03	4/30	4/28	4/25	4/22	4/18	4/13
32	5/02	4/28	4/24	4/21	4/18	4/15	4/11	4/07	4/02
28	4/22	4/18	4/14	4/11	4/07	4/04	4/01	3/28	3/22
24	4/14	4/09	4/04	4/01	3/29	3/24	3/20	3/16	3/10
20	4/04	3/30	3/24	3/20	3/16	3/12	3/07	3/03	2/25
16	3/23	3/16	3/10	3/05	3/02	2/27	2/23	2/18	2/10
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/28	10/01	10/04	10/07	10/10	10/13	10/16	10/21
32	10/01	10/06	10/11	10/14	10/18	10/21	10/23	10/27	11/01
28	10/12	10/18	10/22	10/25	10/28	10/31	11/02	11/06	11/11
24	10/21	10/27	10/31	11/03	11/06	11/09	11/13	11/18	11/24
20	10/31	11/05	11/09	11/14	11/18	11/22	11/26	12/01	12/06
16	11/09	11/16	11/22	11/27	12/01	12/04	12/09	12/14	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	174	169	165	161	156	152	148	140
32	203	196	190	186	181	177	173	167	160
28	224	217	212	207	203	199	194	189	182
24	248	239	233	228	223	218	214	208	201
20	273	264	258	252	247	241	236	229	220
16	301	291	284	278	272	266	260	253	243

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: WEST PLAINS MUNICIPAL AIRPORT, MO US

GHCND:USW00053901
 Elev: 1223 ft. Lat: 36.878° N Lon: 91.902° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/25	4/22	4/18	4/15	4/10	4/04
32	4/26	4/21	4/16	4/13	4/10	4/06	4/02	3/30	3/24
28	4/15	4/10	4/05	4/02	3/30	3/26	3/23	3/19	3/14
24	4/07	4/01	3/27	3/22	3/18	3/16	3/12	3/07	3/02
20	3/27	3/19	3/15	3/11	3/07	3/04	2/28	2/24	2/17
16	3/14	3/07	3/03	2/28	2/24	2/21	2/16	2/10	2/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/01	10/05	10/08	10/10	10/13	10/17	10/20	10/25
32	10/06	10/11	10/15	10/19	10/21	10/24	10/28	11/01	11/06
28	10/16	10/22	10/26	10/30	11/02	11/06	11/09	11/14	11/21
24	10/27	11/03	11/07	11/11	11/16	11/20	11/24	11/28	12/04
20	11/07	11/15	11/22	11/26	11/30	12/02	12/06	12/11	12/17
16	11/22	11/30	12/03	12/06	12/10	12/14	12/17	12/22	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	186	180	175	171	166	162	157	150
32	217	209	203	199	194	189	185	179	171
28	241	233	227	222	217	212	207	201	194
24	266	258	252	246	241	235	230	223	214
20	291	282	276	270	265	260	254	247	237
16	315	306	299	293	288	283	277	271	261

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: SALEM, MO US

GHCND:USC00237506
 Elev: 1200 ft. Lat: 37.633° N Lon: 91.536° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/02	4/29	4/26	4/23	4/20	4/16	4/12	4/07
32	4/27	4/22	4/18	4/14	4/11	4/08	4/04	3/31	3/26
28	4/17	4/11	4/07	4/03	3/31	3/28	3/24	3/21	3/16
24	4/08	4/02	3/29	3/25	3/21	3/18	3/14	3/10	3/05
20	3/29	3/22	3/17	3/13	3/10	3/06	3/02	2/26	2/19
16	3/17	3/11	3/07	3/03	2/28	2/24	2/20	2/15	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/29	10/02	10/05	10/08	10/11	10/15	10/19	10/24
32	10/03	10/09	10/14	10/18	10/21	10/24	10/28	11/01	11/06
28	10/15	10/21	10/26	10/30	11/02	11/04	11/08	11/12	11/17
24	10/25	11/01	11/04	11/08	11/11	11/15	11/19	11/24	12/01
20	11/04	11/10	11/15	11/19	11/24	11/28	12/01	12/05	12/12
16	11/15	11/22	11/28	12/01	12/04	12/08	12/13	12/18	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	182	176	171	167	162	158	153	145
32	214	206	201	196	191	186	181	175	167
28	236	228	223	218	214	210	205	199	190
24	260	251	245	240	235	230	225	219	210
20	285	276	269	263	258	253	247	240	231
16	307	298	291	286	280	275	269	263	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: GROVESPRING 1 NE, MO US

GHCND:USC00233483
 Elev: 1388 ft. Lat: 37.408° N Lon: 92.593° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/15	5/08	5/05	5/01	4/29	4/26	4/23	4/19	4/14
32	5/03	4/28	4/25	4/21	4/18	4/15	4/11	4/07	4/01
28	4/23	4/18	4/13	4/09	4/06	4/03	3/31	3/27	3/21
24	4/12	4/06	4/02	3/30	3/27	3/23	3/20	3/15	3/09
20	4/04	3/29	3/24	3/20	3/16	3/12	3/07	3/03	2/26
16	3/24	3/17	3/12	3/07	3/03	2/28	2/25	2/20	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/25	9/28	10/01	10/04	10/07	10/10	10/14	10/19
32	9/28	10/03	10/07	10/12	10/15	10/19	10/22	10/26	11/01
28	10/08	10/16	10/20	10/24	10/27	10/31	11/02	11/07	11/13
24	10/20	10/27	11/01	11/04	11/07	11/11	11/15	11/20	11/26
20	11/01	11/06	11/11	11/16	11/20	11/24	11/28	12/02	12/08
16	11/10	11/18	11/24	11/28	12/01	12/04	12/08	12/13	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	169	164	159	155	151	147	142	134
32	202	194	188	183	178	174	169	163	154
28	225	217	212	207	202	197	192	186	178
24	250	242	235	230	225	220	214	209	200
20	274	265	259	253	248	243	237	230	220
16	298	288	281	276	271	265	260	253	244

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SEDALIA MEMORIAL AIRPORT, MO US**

GHCND:USW00003994
 Elev: 900 ft. Lat: 38.704° N Lon: 93.183° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/30	4/26	4/23	4/19	4/16	4/13	4/10	4/06	4/01
32	4/21	4/16	4/12	4/08	4/05	4/02	3/31	3/27	3/21
28	4/11	4/06	4/02	3/31	3/26	3/23	3/19	3/16	3/10
24	4/02	3/27	3/22	3/18	3/15	3/12	3/08	3/03	2/27
20	3/22	3/16	3/11	3/08	3/04	3/01	2/26	2/21	2/14
16	3/13	3/07	3/02	2/28	2/24	2/19	2/15	2/09	2/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/07	10/12	10/16	10/19	10/22	10/25	10/29	11/02
32	10/15	10/21	10/25	10/29	11/01	11/03	11/06	11/10	11/15
28	10/28	11/01	11/05	11/08	11/12	11/15	11/18	11/22	11/27
24	11/06	11/12	11/16	11/19	11/23	11/26	11/29	12/03	12/08
20	11/15	11/22	11/26	11/30	12/02	12/05	12/09	12/13	12/19
16	11/24	11/30	12/04	12/07	12/11	12/15	12/19	12/23	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	206	199	194	189	184	179	175	169	161
32	228	221	216	211	207	203	198	193	186
28	251	244	238	233	229	224	220	214	207
24	276	267	261	256	251	246	241	236	228
20	297	289	282	277	273	268	262	256	248
16	316	307	301	296	291	286	280	274	265

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WILLOW SPRGS RD KUKU, MO US**

GHCND:USC00238995
 Elev: 1310 ft. Lat: 36.981° N Lon: 91.991° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/01	4/29	4/25	4/22	4/18	4/14	4/08
32	5/01	4/25	4/21	4/17	4/13	4/10	4/06	4/02	3/27
28	4/19	4/13	4/09	4/05	4/01	3/30	3/25	3/20	3/15
24	4/09	4/03	3/30	3/25	3/21	3/17	3/13	3/08	3/02
20	3/31	3/24	3/18	3/14	3/09	3/05	3/01	2/25	2/18
16	3/18	3/11	3/05	3/01	2/26	2/21	2/17	2/11	2/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/05	10/08	10/11	10/14	10/17	10/20	10/24
32	10/05	10/11	10/14	10/18	10/21	10/23	10/27	10/31	11/05
28	10/15	10/21	10/25	10/29	11/01	11/04	11/08	11/12	11/19
24	10/26	11/01	11/05	11/09	11/13	11/17	11/22	11/27	12/02
20	11/05	11/12	11/18	11/23	11/27	12/01	12/04	12/07	12/14
16	11/15	11/25	11/30	12/03	12/06	12/10	12/14	12/19	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	181	175	171	166	162	157	152	144
32	212	204	198	193	189	184	179	173	164
28	238	229	223	217	212	207	202	196	187
24	264	254	248	242	237	231	225	218	209
20	288	278	272	266	260	255	249	242	231
16	312	303	296	289	284	279	273	266	256

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BUNKER, MO US**

GHCND:USC00231101
 Elev: 1200 ft. Lat: 37.514° N Lon: 91.194° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/28	5/22	5/18	5/14	5/11	5/07	5/03	4/30	4/25
32	5/16	5/10	5/06	5/02	4/30	4/27	4/23	4/19	4/14
28	5/04	4/29	4/25	4/22	4/19	4/15	4/12	4/08	4/03
24	4/23	4/17	4/13	4/10	4/07	4/04	4/01	3/29	3/24
20	4/14	4/09	4/05	4/02	3/31	3/27	3/23	3/20	3/15
16	4/05	3/31	3/27	3/23	3/19	3/16	3/13	3/08	3/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/13	9/18	9/21	9/24	9/26	9/29	10/01	10/04	10/08
32	9/22	9/26	9/30	10/02	10/05	10/07	10/10	10/13	10/18
28	10/01	10/05	10/08	10/12	10/15	10/18	10/21	10/24	10/29
24	10/09	10/15	10/20	10/23	10/26	10/29	11/01	11/05	11/11
20	10/20	10/26	10/31	11/02	11/05	11/09	11/13	11/17	11/24
16	10/31	11/04	11/09	11/13	11/16	11/20	11/25	11/30	12/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	157	150	145	141	136	132	128	123	116
32	178	170	165	160	156	152	148	142	135
28	200	193	187	182	178	173	168	163	155
24	222	215	210	205	201	197	192	187	180
20	244	236	230	225	221	216	212	206	198
16	267	258	252	247	242	237	232	226	217

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST LOUIS SPIRIT OF ST LOUIS AIRPORT, MO US**

GHCND:USW00003966
 Elev: 462 ft. Lat: 38.657° N Lon: 90.656° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/02	4/29	4/26	4/24	4/20	4/17	4/14	4/09
32	4/28	4/23	4/19	4/16	4/13	4/10	4/07	4/03	3/30
28	4/18	4/12	4/08	4/05	4/02	3/30	3/26	3/22	3/18
24	4/07	4/01	3/29	3/24	3/21	3/18	3/14	3/11	3/05
20	3/26	3/21	3/16	3/12	3/09	3/06	3/02	2/27	2/20
16	3/17	3/12	3/07	3/03	2/28	2/25	2/20	2/14	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/04	10/08	10/12	10/15	10/18	10/22	10/26
32	10/06	10/13	10/17	10/21	10/24	10/27	10/30	11/02	11/06
28	10/20	10/26	10/30	11/01	11/04	11/06	11/09	11/13	11/18
24	11/01	11/05	11/08	11/12	11/15	11/19	11/22	11/27	12/02
20	11/10	11/16	11/21	11/25	11/28	12/01	12/04	12/08	12/15
16	11/20	11/28	12/01	12/04	12/07	12/11	12/15	12/19	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	191	184	178	174	170	166	161	156	149
32	213	207	202	197	193	189	184	179	171
28	236	229	223	219	215	211	206	201	194
24	262	254	248	243	238	234	229	223	216
20	286	278	272	266	262	257	252	246	237
16	308	299	293	287	282	277	272	266	257

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SUMMERVILLE, MO US**

GHCND:USC00238184
 Elev: 1227 ft. Lat: 37.140° N Lon: 91.627° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/15	5/08	5/05	5/01	4/30	4/26	4/22	4/18	4/13
32	5/03	4/29	4/24	4/21	4/18	4/14	4/11	4/06	3/31
28	4/22	4/17	4/13	4/10	4/06	4/03	3/31	3/26	3/21
24	4/14	4/08	4/03	3/31	3/28	3/24	3/19	3/16	3/09
20	4/04	3/30	3/24	3/19	3/16	3/12	3/07	3/03	2/26
16	3/24	3/17	3/12	3/07	3/04	3/01	2/25	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/25	9/29	10/01	10/04	10/07	10/10	10/15	10/20
32	9/30	10/04	10/08	10/12	10/16	10/20	10/23	10/27	11/01
28	10/10	10/17	10/22	10/25	10/29	11/01	11/04	11/08	11/14
24	10/23	10/30	11/02	11/06	11/09	11/13	11/17	11/22	11/28
20	11/01	11/07	11/13	11/17	11/21	11/26	11/30	12/03	12/09
16	11/10	11/19	11/25	11/29	12/02	12/05	12/10	12/15	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	171	166	161	157	153	148	142	135
32	204	196	190	185	180	175	170	164	156
28	227	220	214	209	205	200	195	189	181
24	252	244	237	232	227	222	216	210	202
20	276	267	261	255	250	244	239	231	221
16	301	291	285	278	273	267	261	254	244

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MONETT, MO US**

GHCND:USC00235704
 Elev: 1380 ft. Lat: 36.862° N Lon: 93.962° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/01	4/29	4/26	4/23	4/20	4/16	4/12	4/07
32	4/26	4/22	4/18	4/15	4/12	4/09	4/05	4/02	3/27
28	4/17	4/12	4/08	4/05	4/02	3/31	3/27	3/22	3/17
24	4/08	4/03	3/31	3/26	3/22	3/18	3/15	3/10	3/04
20	3/30	3/22	3/17	3/13	3/09	3/05	3/01	2/25	2/19
16	3/16	3/10	3/05	3/01	2/26	2/22	2/18	2/13	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/02	10/07	10/10	10/14	10/17	10/20	10/24	10/29
32	10/08	10/14	10/19	10/22	10/25	10/28	11/01	11/04	11/09
28	10/18	10/24	10/29	11/01	11/04	11/07	11/11	11/15	11/21
24	10/29	11/03	11/07	11/12	11/16	11/19	11/23	11/28	12/03
20	11/06	11/14	11/19	11/23	11/27	11/30	12/03	12/07	12/14
16	11/17	11/24	11/29	12/02	12/05	12/09	12/14	12/18	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	196	188	183	178	173	169	164	159	151
32	217	210	204	200	196	191	187	181	173
28	239	231	226	221	216	212	207	202	194
24	263	254	247	242	237	232	227	221	212
20	288	279	272	267	262	256	250	244	234
16	309	300	294	288	283	278	272	266	257

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: CAMDENTON 2 NW, MO US

GHCND:USC00231212
 Elev: 1030 ft. Lat: 38.217° N Lon: 92.767° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/29	4/25	4/21	4/18	4/14	4/10	4/07	4/01
32	4/21	4/16	4/12	4/09	4/06	4/03	3/31	3/27	3/21
28	4/12	4/07	4/03	3/31	3/28	3/24	3/20	3/16	3/10
24	4/03	3/29	3/24	3/20	3/17	3/13	3/09	3/04	2/26
20	3/25	3/19	3/14	3/10	3/06	3/02	2/27	2/21	2/12
16	3/16	3/09	3/04	2/28	2/24	2/19	2/14	2/07	1/31
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/03	10/08	10/12	10/16	10/19	10/23	10/26	11/01
32	10/07	10/14	10/19	10/23	10/26	10/30	11/01	11/05	11/11
28	10/17	10/26	10/31	11/02	11/06	11/09	11/13	11/18	11/25
24	11/01	11/06	11/10	11/15	11/18	11/23	11/27	12/01	12/07
20	11/10	11/18	11/23	11/27	12/01	12/04	12/07	12/12	12/19
16	11/21	11/28	12/02	12/05	12/09	12/13	12/18	12/23	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	203	195	189	184	179	175	170	164	155
32	224	217	212	207	202	197	192	187	178
28	248	239	233	228	223	218	213	207	198
24	273	264	257	251	246	241	235	229	220
20	297	288	281	275	270	264	258	252	243
16	320	309	302	296	290	284	278	271	261

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: CALIFORNIA, MO US

GHCND:USC00231189
 Elev: 879 ft. Lat: 38.628° N Lon: 92.554° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/02	4/29	4/26	4/23	4/20	4/17	4/13	4/08
32	4/27	4/22	4/19	4/15	4/12	4/09	4/07	4/03	3/30
28	4/18	4/13	4/09	4/06	4/03	4/01	3/29	3/24	3/18
24	4/10	4/05	4/01	3/28	3/24	3/20	3/17	3/12	3/06
20	4/01	3/26	3/21	3/16	3/13	3/09	3/06	3/01	2/24
16	3/21	3/14	3/10	3/06	3/03	2/28	2/24	2/19	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	10/01	10/04	10/07	10/11	10/14	10/18	10/21	10/25
32	10/04	10/11	10/16	10/19	10/22	10/25	10/28	10/31	11/04
28	10/16	10/22	10/27	10/30	11/01	11/04	11/07	11/11	11/16
24	10/29	11/02	11/05	11/08	11/11	11/15	11/18	11/23	11/29
20	11/05	11/10	11/15	11/19	11/23	11/26	11/30	12/04	12/10
16	11/13	11/20	11/25	11/29	12/02	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	191	184	178	174	169	165	161	155	148
32	212	205	200	196	191	187	182	177	170
28	233	225	220	215	211	207	202	197	190
24	256	247	242	236	232	227	222	216	209
20	278	270	264	259	254	249	243	237	229
16	300	290	284	278	273	269	263	257	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CANTON LOCK AND DAM 20, MO US**

GHCND:USC00231275
 Elev: 490 ft. Lat: 40.143° N Lon: 91.516° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/25	4/22	4/19	4/16	4/12	4/08
32	4/27	4/21	4/17	4/14	4/11	4/09	4/06	4/03	3/30
28	4/16	4/11	4/08	4/05	4/03	3/31	3/28	3/24	3/18
24	4/08	4/03	3/31	3/28	3/24	3/21	3/17	3/13	3/08
20	3/31	3/25	3/21	3/17	3/14	3/11	3/07	3/04	2/28
16	3/22	3/16	3/12	3/08	3/05	3/03	2/28	2/24	2/16
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/04	10/08	10/12	10/15	10/17	10/21	10/25
32	10/05	10/12	10/16	10/19	10/22	10/25	10/28	11/01	11/05
28	10/18	10/24	10/28	10/31	11/02	11/05	11/08	11/12	11/17
24	11/01	11/04	11/07	11/10	11/13	11/17	11/20	11/25	12/01
20	11/07	11/13	11/17	11/21	11/25	11/28	12/01	12/04	12/10
16	11/16	11/23	11/27	11/30	12/03	12/06	12/10	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	191	184	179	174	170	166	162	156	149
32	212	205	200	196	192	188	183	178	171
28	234	226	221	217	213	209	205	200	193
24	256	248	243	238	233	229	224	219	212
20	277	269	263	258	253	249	244	238	230
16	297	288	282	277	272	268	262	256	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **LONG BRANCH RESERVOIR, MO US**

GHCND:USC00235050
 Elev: 820 ft. Lat: 39.750° N Lon: 92.506° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/03	4/30	4/28	4/25	4/22	4/19	4/15	4/11
32	4/28	4/24	4/20	4/17	4/14	4/11	4/08	4/04	3/31
28	4/19	4/14	4/10	4/07	4/05	4/02	3/31	3/26	3/20
24	4/10	4/05	4/01	3/29	3/25	3/22	3/18	3/14	3/09
20	4/01	3/27	3/22	3/18	3/15	3/11	3/08	3/04	2/28
16	3/21	3/15	3/11	3/08	3/05	3/02	2/28	2/23	2/16
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/27	10/01	10/04	10/07	10/11	10/14	10/17	10/22
32	10/01	10/07	10/12	10/15	10/19	10/22	10/25	10/28	11/01
28	10/12	10/19	10/23	10/27	10/30	11/01	11/03	11/07	11/13
24	10/24	10/31	11/02	11/05	11/08	11/11	11/14	11/19	11/26
20	11/04	11/08	11/12	11/15	11/19	11/23	11/28	12/01	12/07
16	11/10	11/16	11/21	11/26	11/30	12/02	12/06	12/10	12/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	173	168	164	160	156	151	145
32	207	200	194	190	186	182	177	172	165
28	227	220	215	211	206	202	197	192	185
24	250	242	236	232	227	223	218	213	205
20	272	264	258	253	248	243	239	233	225
16	293	284	278	273	268	264	259	252	244

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **HAMILTON 2 W, MO US**

GHCND:USC00233568
 Elev: 900 ft. Lat: 39.742° N Lon: 94.035° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/24	5/17	5/13	5/10	5/07	5/04	5/01	4/29	4/24
32	5/11	5/05	5/02	4/30	4/27	4/25	4/22	4/19	4/14
28	5/01	4/27	4/24	4/20	4/18	4/15	4/12	4/08	4/03
24	4/21	4/17	4/13	4/10	4/07	4/04	4/01	3/29	3/22
20	4/13	4/08	4/04	4/01	3/29	3/25	3/21	3/16	3/09
16	4/04	3/30	3/24	3/20	3/16	3/12	3/08	3/03	2/27
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/16	9/20	9/23	9/26	9/29	10/01	10/05	10/08	10/12
32	9/22	9/28	10/01	10/04	10/08	10/11	10/14	10/19	10/23
28	10/02	10/09	10/13	10/17	10/20	10/23	10/26	10/29	11/02
24	10/15	10/20	10/24	10/28	10/31	11/01	11/05	11/09	11/15
20	10/25	10/31	11/03	11/06	11/10	11/13	11/17	11/21	11/27
16	11/03	11/09	11/13	11/18	11/22	11/26	11/30	12/03	12/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	162	156	151	147	143	139	134	129	121
32	184	177	171	167	163	159	154	149	141
28	206	199	193	189	184	180	175	170	163
24	226	219	214	209	205	201	196	191	184
20	249	241	235	230	225	221	216	211	203
16	274	265	259	254	248	243	238	232	223

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **LAKESIDE, MO US**

GHCND:USC00234694
 Elev: 592 ft. Lat: 38.204° N Lon: 92.621° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	4/30	4/28	4/25	4/22	4/18	4/15	4/11	4/05
32	4/24	4/20	4/16	4/13	4/10	4/06	4/03	3/30	3/25
28	4/16	4/10	4/06	4/02	3/30	3/27	3/23	3/19	3/14
24	4/05	3/31	3/26	3/22	3/18	3/15	3/11	3/06	3/01
20	3/22	3/16	3/12	3/08	3/05	3/01	2/27	2/23	2/16
16	3/13	3/07	3/03	2/28	2/25	2/21	2/16	2/11	2/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/02	10/08	10/11	10/14	10/17	10/20	10/23	10/26	11/01
32	10/13	10/19	10/23	10/26	10/29	11/01	11/03	11/07	11/12
28	10/24	10/30	11/02	11/05	11/08	11/11	11/15	11/20	11/27
24	11/04	11/09	11/13	11/17	11/21	11/25	11/29	12/02	12/08
20	11/13	11/20	11/25	11/29	12/02	12/05	12/09	12/13	12/20
16	11/24	12/01	12/04	12/08	12/12	12/16	12/20	12/24	12/30
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	192	186	182	178	173	169	164	157
32	222	215	210	205	201	197	193	188	181
28	246	238	232	227	223	218	214	208	200
24	271	262	257	251	246	241	236	230	222
20	295	287	280	275	270	265	260	254	246
16	315	306	300	295	290	285	280	273	264

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **HANNIBAL WATER WORKS, MO US**

GHCND:USC00233601
 Elev: 712 ft. Lat: 39.723° N Lon: 91.372° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/02	4/29	4/26	4/23	4/19	4/16	4/12	4/07
32	4/27	4/22	4/18	4/15	4/11	4/09	4/06	4/03	3/29
28	4/18	4/12	4/08	4/05	4/03	3/31	3/27	3/23	3/16
24	4/09	4/03	3/31	3/27	3/23	3/20	3/16	3/12	3/06
20	3/31	3/25	3/20	3/17	3/13	3/10	3/06	3/03	2/26
16	3/22	3/16	3/12	3/08	3/05	3/02	2/28	2/22	2/15
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/03	10/07	10/10	10/13	10/16	10/20	10/23	10/27
32	10/09	10/15	10/19	10/22	10/25	10/28	10/31	11/03	11/08
28	10/20	10/25	10/30	11/01	11/04	11/07	11/11	11/15	11/20
24	10/30	11/03	11/07	11/11	11/14	11/18	11/22	11/26	12/01
20	11/07	11/13	11/18	11/22	11/25	11/29	12/01	12/05	12/11
16	11/16	11/23	11/27	12/01	12/03	12/06	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	186	181	176	172	168	164	158	151
32	216	209	204	199	195	190	186	180	173
28	238	230	225	220	216	211	207	201	193
24	259	251	245	241	236	231	226	220	212
20	280	272	266	261	256	251	246	240	232
16	298	290	283	278	273	269	263	258	250

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ANDERSON, MO US**

GHCND:USC00230164
 Elev: 1050 ft. Lat: 36.652° N Lon: 94.439° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/08	5/04	5/02	4/29	4/27	4/24	4/19	4/14
32	5/04	4/30	4/26	4/23	4/19	4/16	4/13	4/09	4/02
28	4/26	4/20	4/15	4/12	4/08	4/05	4/01	3/28	3/22
24	4/13	4/08	4/04	3/31	3/27	3/24	3/19	3/14	3/06
20	4/04	3/28	3/23	3/18	3/15	3/10	3/05	2/28	2/22
16	3/21	3/15	3/10	3/05	2/28	2/24	2/20	2/15	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/27	10/01	10/04	10/07	10/10	10/14	10/18	10/22
32	9/29	10/05	10/10	10/14	10/18	10/21	10/24	10/28	11/02
28	10/11	10/18	10/22	10/26	10/29	11/01	11/04	11/08	11/14
24	10/22	10/28	11/01	11/05	11/08	11/12	11/17	11/21	11/27
20	11/01	11/07	11/13	11/17	11/22	11/26	11/30	12/03	12/09
16	11/13	11/20	11/26	11/30	12/03	12/06	12/11	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	174	169	164	160	155	151	145	137
32	203	195	190	184	180	175	170	164	156
28	226	218	212	207	203	198	193	187	179
24	252	242	236	230	225	220	215	208	200
20	278	269	262	256	251	245	239	232	223
16	304	295	288	282	276	271	265	258	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **COLUMBIA REGIONAL AIRPORT, MO US**

GHCND:USW00003945
 Elev: 893 ft. Lat: 38.817° N Lon: 92.218° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	4/30	4/28	4/25	4/22	4/19	4/15	4/11	4/06
32	4/24	4/19	4/16	4/12	4/09	4/07	4/04	4/01	3/27
28	4/15	4/10	4/07	4/04	4/01	3/30	3/26	3/22	3/17
24	4/06	4/01	3/29	3/25	3/21	3/18	3/15	3/10	3/04
20	3/29	3/22	3/18	3/14	3/10	3/07	3/03	2/27	2/20
16	3/18	3/12	3/07	3/03	2/28	2/25	2/20	2/15	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/04	10/07	10/10	10/13	10/17	10/20	10/25
32	10/06	10/12	10/17	10/20	10/23	10/26	10/29	11/01	11/06
28	10/18	10/24	10/28	11/01	11/03	11/06	11/09	11/14	11/19
24	10/31	11/03	11/07	11/11	11/14	11/18	11/22	11/26	12/01
20	11/07	11/14	11/18	11/23	11/26	11/30	12/03	12/06	12/12
16	11/17	11/25	11/29	12/01	12/05	12/08	12/12	12/17	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	184	179	174	170	166	162	156	149
32	215	208	203	198	195	191	186	181	174
28	237	230	224	220	215	211	207	201	194
24	261	253	247	242	237	232	227	222	214
20	284	276	270	264	260	255	250	243	235
16	305	297	290	284	279	274	269	263	254

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **FESTUS, MO US**

GHCND:USC00232850
 Elev: 600 ft. Lat: 38.231° N Lon: 90.398° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/02	4/30	4/26	4/24	4/20	4/17	4/11
32	4/30	4/25	4/22	4/19	4/16	4/12	4/09	4/05	3/31
28	4/20	4/15	4/11	4/08	4/04	4/01	3/30	3/25	3/20
24	4/10	4/04	3/31	3/29	3/25	3/21	3/18	3/13	3/07
20	3/31	3/25	3/20	3/17	3/13	3/09	3/05	3/01	2/23
16	3/19	3/13	3/08	3/05	3/02	2/27	2/22	2/17	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	9/30	10/03	10/05	10/08	10/11	10/14	10/18	10/22
32	10/04	10/09	10/13	10/17	10/20	10/23	10/26	10/30	11/04
28	10/14	10/21	10/25	10/28	11/01	11/03	11/07	11/11	11/17
24	10/25	11/01	11/05	11/08	11/13	11/16	11/21	11/27	12/02
20	11/03	11/11	11/17	11/23	11/27	12/01	12/04	12/08	12/14
16	11/17	11/27	12/01	12/04	12/07	12/11	12/15	12/20	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	185	178	172	168	164	160	155	151	144
32	209	201	195	191	186	182	178	172	165
28	232	224	218	213	209	204	200	194	187
24	257	248	242	236	231	226	221	215	207
20	282	273	267	261	256	250	244	237	228
16	305	296	290	284	279	274	269	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **KIRKSVILLE, MO US**

GHCND:USC00234544
 Elev: 970 ft. Lat: 40.206° N Lon: 92.575° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/16	5/11	5/07	5/04	5/02	4/30	4/27	4/24	4/19
32	5/05	5/02	4/29	4/26	4/24	4/21	4/17	4/14	4/09
28	4/29	4/24	4/20	4/17	4/13	4/10	4/08	4/04	3/31
24	4/20	4/14	4/10	4/07	4/04	4/02	3/30	3/25	3/19
20	4/11	4/06	4/02	3/30	3/26	3/22	3/19	3/15	3/08
16	4/02	3/28	3/23	3/19	3/15	3/11	3/08	3/04	2/27
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/18	9/22	9/25	9/28	10/01	10/03	10/06	10/10	10/15
32	9/25	10/01	10/05	10/08	10/11	10/15	10/18	10/22	10/26
28	10/06	10/13	10/17	10/20	10/23	10/26	10/29	11/01	11/06
24	10/19	10/24	10/28	11/01	11/02	11/05	11/08	11/12	11/17
20	10/30	11/02	11/05	11/09	11/12	11/15	11/19	11/23	11/29
16	11/05	11/10	11/15	11/19	11/23	11/27	12/01	12/04	12/10
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	169	162	157	153	149	146	141	136	129
32	190	183	177	173	169	165	161	156	149
28	211	204	199	194	190	186	182	176	169
24	232	225	219	215	211	206	202	196	189
20	254	246	240	235	230	226	221	216	209
16	275	267	261	256	251	246	241	235	227

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CARUTHERSVILLE, MO US**

GHCND:USC00231364
 Elev: 265 ft. Lat: 36.126° N Lon: 89.700° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/22	4/18	4/14	4/11	4/09	4/06	4/03	3/31	3/25
32	4/14	4/09	4/05	4/02	3/31	3/27	3/23	3/19	3/14
28	4/03	3/30	3/25	3/21	3/17	3/14	3/10	3/06	3/02
24	3/21	3/16	3/11	3/07	3/04	3/01	2/25	2/19	2/10
20	3/12	3/05	2/28	2/24	2/19	2/14	2/08	2/03	1/27
16	2/28	2/21	2/15	2/09	2/05	2/01	1/29	1/20	1/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/10	10/14	10/18	10/22	10/25	10/28	11/01	11/04	11/10
32	10/19	10/25	10/29	11/01	11/05	11/08	11/13	11/19	11/26
28	10/30	11/04	11/10	11/15	11/20	11/25	11/30	12/03	12/09
24	11/09	11/19	11/26	12/01	12/04	12/07	12/11	12/17	12/24
20	11/26	12/03	12/07	12/11	12/16	12/21	12/26	12/31	1/08
16	12/06	12/12	12/17	12/23	12/27	1/01	1/05	1/13	1/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	220	213	208	203	199	195	190	185	178
32	245	236	230	225	220	215	210	204	196
28	273	264	257	252	246	241	234	227	219
24	302	292	285	279	274	268	262	255	245
20	329	318	311	305	299	293	287	279	268
16	355	342	334	328	323	317	310	304	293

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SPRINGFIELD REGIONAL AIRPORT, MO US**

GHCND:USW00013995
 Elev: 1259 ft. Lat: 37.240° N Lon: 93.390° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/03	4/30	4/27	4/24	4/21	4/18	4/14	4/09
32	4/29	4/24	4/20	4/16	4/13	4/10	4/07	4/03	3/29
28	4/18	4/12	4/09	4/06	4/03	3/31	3/27	3/23	3/17
24	4/08	4/03	3/30	3/26	3/22	3/19	3/15	3/11	3/05
20	3/29	3/22	3/18	3/14	3/10	3/06	3/03	2/27	2/20
16	3/18	3/12	3/06	3/03	2/28	2/24	2/19	2/14	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/27	10/01	10/05	10/09	10/12	10/15	10/19	10/23	10/28
32	10/06	10/13	10/17	10/21	10/24	10/27	10/31	11/03	11/07
28	10/17	10/23	10/28	11/01	11/03	11/06	11/09	11/13	11/18
24	10/28	11/02	11/06	11/10	11/14	11/17	11/20	11/24	11/29
20	11/05	11/13	11/18	11/22	11/25	11/28	12/01	12/05	12/11
16	11/15	11/23	11/28	12/01	12/04	12/07	12/12	12/16	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	185	179	175	170	166	161	155	148
32	215	207	202	197	193	188	183	178	169
28	235	228	223	218	214	209	205	199	191
24	258	250	244	239	234	230	225	219	211
20	283	274	268	263	258	253	247	241	232
16	305	296	289	284	279	274	269	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **KANSAS CITY DOWNTOWN AIRPORT, MO US**

GHCND:USW00013988
 Elev: 742 ft. Lat: 39.121° N Lon: 94.597° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/30	4/25	4/21	4/18	4/15	4/12	4/09	4/05	4/01
32	4/20	4/14	4/11	4/08	4/05	4/02	3/31	3/27	3/21
28	4/10	4/05	4/02	3/31	3/27	3/23	3/20	3/16	3/10
24	4/01	3/27	3/23	3/19	3/16	3/12	3/08	3/03	2/27
20	3/23	3/17	3/13	3/09	3/06	3/02	2/28	2/23	2/15
16	3/16	3/09	3/05	3/01	2/26	2/22	2/18	2/12	2/04
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/04	10/12	10/16	10/20	10/23	10/26	10/29	11/01	11/05
32	10/18	10/24	10/28	10/31	11/02	11/05	11/08	11/12	11/17
28	10/29	11/02	11/05	11/09	11/12	11/15	11/18	11/22	11/28
24	11/05	11/11	11/15	11/18	11/22	11/25	11/29	12/02	12/08
20	11/13	11/20	11/25	11/28	12/01	12/04	12/07	12/12	12/18
16	11/23	11/28	12/01	12/05	12/09	12/12	12/17	12/22	12/27
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	209	203	197	193	189	185	180	175	168
32	231	224	218	214	210	205	201	196	188
28	252	244	239	234	229	225	220	215	208
24	274	266	260	255	250	245	240	235	227
20	295	286	280	274	269	264	259	253	245
16	313	304	297	292	287	281	276	270	261

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MOBERLY, MO US**

GHCND:USC00235671
 Elev: 860 ft. Lat: 39.419° N Lon: 92.437° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	4/30	4/28	4/25	4/22	4/19	4/15	4/11
32	4/29	4/24	4/21	4/18	4/14	4/11	4/09	4/05	4/01
28	4/20	4/14	4/11	4/08	4/05	4/02	3/31	3/27	3/21
24	4/11	4/06	4/03	3/31	3/28	3/24	3/20	3/16	3/10
20	4/03	3/29	3/24	3/20	3/17	3/13	3/09	3/05	2/28
16	3/23	3/17	3/13	3/09	3/05	3/02	2/28	2/23	2/16
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/04	10/07	10/10	10/13	10/16	10/19	10/24
32	10/05	10/11	10/15	10/18	10/21	10/24	10/26	10/29	11/02
28	10/16	10/22	10/25	10/29	11/01	11/03	11/06	11/10	11/15
24	10/29	11/02	11/05	11/08	11/11	11/14	11/17	11/22	11/29
20	11/05	11/10	11/14	11/18	11/21	11/25	11/29	12/02	12/07
16	11/13	11/19	11/24	11/28	12/01	12/04	12/07	12/11	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	180	174	170	166	162	158	152	145
32	207	201	196	192	187	183	179	174	166
28	229	222	217	213	208	204	199	194	187
24	252	244	239	234	229	225	220	215	207
20	273	265	259	254	249	245	240	234	227
16	294	285	279	274	269	264	259	253	245

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

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 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **KIRKSVILLE REGIONAL AIRPORT, MO US**

GHCND:USW00014938
 Elev: 966 ft. Lat: 40.097° N Lon: 92.543° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/12	5/06	5/03	5/01	4/29	4/26	4/23	4/20	4/15
32	5/03	4/29	4/25	4/22	4/19	4/16	4/13	4/09	4/05
28	4/24	4/19	4/15	4/12	4/09	4/06	4/03	3/31	3/25
24	4/16	4/10	4/07	4/03	4/01	3/29	3/25	3/20	3/15
20	4/07	4/02	3/29	3/25	3/21	3/17	3/13	3/09	3/04
16	3/29	3/22	3/18	3/14	3/10	3/07	3/03	2/28	2/21
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/18	9/22	9/26	9/29	10/01	10/04	10/07	10/11	10/16
32	9/27	10/01	10/06	10/10	10/13	10/16	10/19	10/23	10/27
28	10/09	10/15	10/19	10/22	10/25	10/28	10/31	11/03	11/07
24	10/21	10/27	10/31	11/02	11/04	11/07	11/10	11/14	11/19
20	11/01	11/04	11/08	11/11	11/14	11/18	11/22	11/27	12/02
16	11/07	11/12	11/16	11/21	11/26	11/30	12/02	12/07	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	174	167	162	158	154	150	146	141	134
32	196	189	184	179	175	171	167	162	154
28	218	212	207	202	198	194	189	184	176
24	240	232	227	222	218	214	209	204	196
20	264	255	249	244	239	234	229	223	216
16	285	276	270	265	260	255	250	244	235

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CONCEPTION, MO US**

GHCND:USC00231822
 Elev: 1108 ft. Lat: 40.239° N Lon: 94.683° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/02	4/29	4/26	4/24	4/21	4/18	4/15	4/10
32	4/26	4/23	4/20	4/17	4/14	4/11	4/09	4/05	4/02
28	4/19	4/15	4/11	4/09	4/06	4/04	4/01	3/29	3/22
24	4/12	4/07	4/04	4/01	3/30	3/26	3/22	3/18	3/12
20	4/04	3/30	3/26	3/22	3/19	3/15	3/12	3/08	3/03
16	3/26	3/21	3/17	3/13	3/09	3/06	3/03	2/28	2/20
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/28	10/01	10/05	10/08	10/11	10/14	10/18	10/23
32	10/01	10/07	10/12	10/16	10/19	10/22	10/25	10/29	11/02
28	10/12	10/19	10/23	10/27	10/31	11/02	11/05	11/10	11/15
24	10/24	10/31	11/03	11/06	11/10	11/13	11/16	11/20	11/26
20	11/03	11/08	11/13	11/16	11/19	11/23	11/27	12/01	12/06
16	11/10	11/16	11/21	11/25	11/29	12/01	12/05	12/09	12/15
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	179	174	170	166	162	157	152	146
32	207	200	195	190	186	182	178	173	165
28	227	220	214	210	206	201	197	191	184
24	248	240	234	229	225	220	216	210	203
20	269	260	254	249	244	240	235	229	222
16	287	278	272	268	263	258	253	247	239

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WASOLA, MO US**

GHCND:USC00238754
 Elev: 1190 ft. Lat: 36.858° N Lon: 92.587° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/13	4/08
32	4/27	4/22	4/18	4/15	4/12	4/09	4/06	4/03	3/30
28	4/16	4/11	4/07	4/04	4/02	3/31	3/27	3/23	3/17
24	4/07	4/02	3/30	3/27	3/23	3/19	3/15	3/11	3/04
20	3/31	3/24	3/19	3/16	3/12	3/08	3/04	2/28	2/21
16	3/21	3/14	3/09	3/05	3/01	2/26	2/22	2/16	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/27	10/01	10/05	10/08	10/12	10/15	10/18	10/21	10/26
32	10/06	10/12	10/16	10/20	10/23	10/26	10/30	11/02	11/08
28	10/16	10/23	10/27	11/01	11/03	11/06	11/10	11/14	11/20
24	10/27	11/02	11/07	11/11	11/14	11/18	11/22	11/26	12/01
20	11/06	11/13	11/18	11/22	11/26	11/29	12/02	12/06	12/12
16	11/17	11/24	11/29	12/01	12/05	12/08	12/12	12/16	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	191	185	179	175	170	166	161	156	148
32	215	207	202	197	193	188	183	178	171
28	237	230	224	219	215	210	205	200	192
24	260	252	245	240	235	231	225	219	211
20	283	274	268	262	257	252	246	240	231
16	305	295	288	283	277	272	267	261	252

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: JEFFERSON CITY WATER PLANT, MO US

GHCND:USC00234271
 Elev: 670 ft. Lat: 38.585° N Lon: 92.182° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/29	4/26	4/23	4/19	4/16	4/13	4/09	4/03
32	4/23	4/18	4/14	4/11	4/08	4/05	4/02	3/30	3/24
28	4/14	4/08	4/04	4/01	3/30	3/26	3/22	3/18	3/13
24	4/05	3/31	3/26	3/22	3/18	3/15	3/12	3/07	3/01
20	3/25	3/19	3/14	3/11	3/07	3/03	3/01	2/24	2/17
16	3/16	3/09	3/05	3/01	2/27	2/22	2/18	2/12	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/05	10/10	10/13	10/16	10/19	10/22	10/25	10/29
32	10/09	10/16	10/21	10/24	10/27	10/30	11/01	11/04	11/09
28	10/21	10/28	11/01	11/03	11/06	11/09	11/13	11/17	11/24
24	11/01	11/05	11/10	11/14	11/18	11/22	11/26	11/30	12/05
20	11/08	11/17	11/22	11/26	11/30	12/02	12/05	12/10	12/16
16	11/21	11/28	12/01	12/04	12/08	12/12	12/16	12/20	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	200	193	187	183	178	174	170	164	157
32	221	215	209	205	201	197	192	187	179
28	244	236	231	226	221	217	212	206	198
24	269	260	254	248	243	238	233	227	218
20	291	282	276	271	266	261	256	249	240
16	312	302	296	290	285	280	274	268	259

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **PRINCETON, MO US**

GHCND:USC00236866
 Elev: 980 ft. Lat: 40.399° N Lon: 93.584° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/06	5/03	4/30	4/28	4/25	4/22	4/18	4/14
32	5/02	4/28	4/24	4/21	4/18	4/15	4/12	4/09	4/05
28	4/23	4/18	4/15	4/12	4/09	4/06	4/04	3/31	3/26
24	4/15	4/10	4/07	4/04	4/01	3/29	3/25	3/21	3/15
20	4/07	4/02	3/30	3/26	3/22	3/18	3/14	3/09	3/04
16	3/30	3/24	3/19	3/16	3/12	3/08	3/04	3/01	2/23
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/24	9/28	9/30	10/03	10/06	10/09	10/13	10/17
32	9/29	10/04	10/08	10/12	10/15	10/18	10/21	10/25	10/29
28	10/09	10/16	10/20	10/23	10/27	10/30	11/01	11/04	11/09
24	10/21	10/27	11/01	11/03	11/05	11/08	11/12	11/16	11/21
20	11/01	11/05	11/08	11/12	11/15	11/19	11/23	11/27	12/02
16	11/08	11/13	11/17	11/22	11/26	11/29	12/02	12/05	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	166	162	158	154	150	146	139
32	199	192	187	183	179	175	170	165	158
28	220	212	207	203	199	195	191	185	178
24	241	234	228	223	219	215	210	205	198
20	264	255	249	244	239	234	229	224	216
16	283	275	269	263	258	253	248	242	234

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: OSCEOLA, MO US

GHCND:USC00236402
 Elev: 712 ft. Lat: 38.049° N Lon: 93.704° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/01	4/29	4/26	4/24	4/20	4/17	4/11
32	5/02	4/27	4/23	4/20	4/16	4/14	4/10	4/06	3/31
28	4/23	4/18	4/13	4/09	4/06	4/03	3/31	3/26	3/20
24	4/13	4/07	4/03	3/30	3/26	3/22	3/18	3/13	3/07
20	4/02	3/27	3/22	3/18	3/14	3/09	3/05	3/01	2/24
16	3/21	3/14	3/09	3/04	3/01	2/27	2/23	2/18	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/03	10/06	10/09	10/13	10/16	10/20	10/25
32	10/02	10/09	10/14	10/17	10/21	10/24	10/27	10/31	11/04
28	10/15	10/21	10/25	10/28	10/31	11/03	11/05	11/09	11/14
24	10/26	10/31	11/03	11/06	11/09	11/12	11/16	11/20	11/26
20	11/03	11/09	11/13	11/17	11/21	11/24	11/28	12/02	12/07
16	11/12	11/19	11/24	11/28	12/01	12/04	12/08	12/12	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	179	173	169	165	161	156	151	144
32	208	200	194	190	185	181	176	170	162
28	228	221	215	211	206	201	197	191	182
24	251	243	237	232	227	223	218	212	203
20	275	267	261	255	250	245	240	234	225
16	297	289	283	277	272	267	262	256	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: ROSEBUD, MO US

GHCND:USC00237300
 Elev: 960 ft. Lat: 38.450° N Lon: 91.376° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/21	5/15	5/11	5/07	5/04	5/02	4/29	4/25	4/19
32	5/10	5/05	5/01	4/28	4/25	4/22	4/17	4/13	4/08
28	4/30	4/25	4/21	4/17	4/13	4/10	4/07	4/03	3/29
24	4/21	4/14	4/09	4/06	4/03	3/31	3/27	3/22	3/17
20	4/09	4/03	3/31	3/26	3/22	3/18	3/14	3/10	3/04
16	3/31	3/23	3/18	3/14	3/10	3/06	3/03	2/28	2/21
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/17	9/22	9/25	9/28	10/01	10/03	10/05	10/09	10/14
32	9/26	10/01	10/04	10/07	10/11	10/14	10/17	10/20	10/25
28	10/05	10/12	10/16	10/19	10/22	10/24	10/28	11/01	11/05
24	10/18	10/23	10/27	10/31	11/02	11/05	11/09	11/13	11/19
20	10/30	11/02	11/06	11/10	11/14	11/18	11/22	11/27	12/02
16	11/07	11/13	11/18	11/23	11/27	11/30	12/03	12/08	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	167	160	155	150	146	142	138	133	126
32	190	182	176	171	167	162	158	152	144
28	213	205	200	195	190	185	180	175	166
24	237	229	223	218	213	209	204	198	189
20	262	253	247	241	236	231	226	220	211
16	285	276	270	265	260	254	249	242	233

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MOUNT VERNON MU SW CNTR, MO US**

GHCND:USC00235862
 Elev: 1190 ft. Lat: 37.073° N Lon: 93.879° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/08	5/04	5/01	4/29	4/26	4/23	4/19	4/13
32	5/03	4/28	4/25	4/22	4/18	4/15	4/11	4/07	4/01
28	4/22	4/17	4/13	4/10	4/07	4/04	3/31	3/28	3/22
24	4/13	4/08	4/04	3/31	3/28	3/24	3/20	3/16	3/09
20	4/03	3/29	3/23	3/19	3/15	3/11	3/06	3/01	2/23
16	3/20	3/14	3/09	3/05	3/01	2/26	2/21	2/16	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/26	9/30	10/02	10/05	10/09	10/12	10/16	10/21
32	9/29	10/05	10/09	10/13	10/17	10/20	10/24	10/27	11/01
28	10/09	10/16	10/20	10/24	10/27	10/31	11/03	11/07	11/13
24	10/19	10/26	10/31	11/04	11/07	11/11	11/15	11/20	11/26
20	10/31	11/05	11/11	11/16	11/20	11/24	11/28	12/02	12/08
16	11/09	11/18	11/24	11/28	12/01	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	173	168	163	159	154	150	145	137
32	203	196	190	185	180	176	171	165	157
28	226	218	212	207	202	198	193	187	179
24	250	241	235	229	224	219	214	208	199
20	277	268	261	255	249	243	237	229	220
16	301	292	285	279	274	268	262	256	246

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WELDON SPRING, MO US**

GHCND:USC00238805
 Elev: 584 ft. Lat: 38.699° N Lon: 90.683° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	4/30	4/27	4/24	4/21	4/18	4/14	4/09
32	4/28	4/23	4/19	4/16	4/13	4/10	4/07	4/03	3/29
28	4/17	4/12	4/08	4/05	4/02	3/31	3/27	3/23	3/18
24	4/08	4/02	3/30	3/26	3/23	3/19	3/16	3/12	3/07
20	3/29	3/23	3/19	3/15	3/12	3/08	3/05	3/01	2/24
16	3/19	3/14	3/09	3/05	3/02	2/28	2/23	2/18	2/10
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/02	10/05	10/09	10/12	10/16	10/20	10/25
32	10/02	10/08	10/13	10/18	10/22	10/25	10/28	11/01	11/07
28	10/13	10/22	10/26	10/31	11/02	11/06	11/10	11/15	11/20
24	10/28	11/03	11/07	11/12	11/16	11/20	11/24	11/29	12/03
20	11/07	11/15	11/20	11/25	11/28	12/01	12/04	12/08	12/14
16	11/18	11/27	12/01	12/03	12/06	12/10	12/14	12/18	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	181	175	171	166	162	157	152	144
32	213	205	199	194	190	185	179	173	165
28	236	228	222	217	213	208	203	196	187
24	260	252	246	242	237	232	226	220	211
20	282	274	268	263	259	254	248	243	234
16	303	295	289	283	279	274	269	263	254

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: SMITHVILLE LAKE, MO US

GHCND:USC00237862
 Elev: 904 ft. Lat: 39.390° N Lon: 94.555° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/05	5/01	4/29	4/26	4/23	4/20	4/17	4/13
32	5/01	4/26	4/23	4/20	4/17	4/14	4/11	4/08	4/04
28	4/21	4/16	4/13	4/10	4/07	4/04	4/02	3/30	3/23
24	4/12	4/07	4/04	4/01	3/29	3/25	3/22	3/17	3/11
20	4/03	3/29	3/24	3/21	3/17	3/13	3/09	3/05	2/28
16	3/24	3/18	3/13	3/10	3/06	3/03	2/28	2/22	2/15
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/01	10/05	10/08	10/11	10/14	10/19	10/23
32	10/03	10/08	10/13	10/17	10/20	10/23	10/26	10/30	11/03
28	10/12	10/19	10/23	10/27	10/30	11/01	11/04	11/08	11/13
24	10/23	10/30	11/02	11/05	11/08	11/12	11/16	11/20	11/27
20	11/02	11/07	11/12	11/16	11/20	11/25	11/28	12/02	12/07
16	11/10	11/18	11/25	11/28	12/01	12/04	12/08	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	172	168	164	160	156	150	143
32	205	198	193	188	184	180	175	170	162
28	225	218	213	208	204	200	196	190	182
24	249	241	235	230	225	221	216	210	202
20	273	264	258	253	248	242	237	231	222
16	295	286	279	274	269	264	259	252	243

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **NEW MADRID, MO US**

GHCND:USC00236045
 Elev: 302 ft. Lat: 36.587° N Lon: 89.532° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/24	4/19	4/15	4/12	4/09	4/06	4/03	3/30	3/25
32	4/13	4/08	4/04	4/01	3/29	3/26	3/22	3/18	3/12
28	4/03	3/29	3/24	3/20	3/16	3/13	3/08	3/04	2/27
24	3/20	3/15	3/10	3/06	3/02	2/28	2/24	2/19	2/12
20	3/11	3/03	2/28	2/23	2/19	2/15	2/10	2/05	1/31
16	2/28	2/22	2/17	2/12	2/07	2/04	1/31	1/26	1/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/08	10/13	10/17	10/21	10/24	10/27	10/31	11/03	11/08
32	10/19	10/25	10/29	11/01	11/05	11/08	11/12	11/16	11/22
28	11/01	11/06	11/11	11/14	11/18	11/22	11/27	12/01	12/06
24	11/11	11/18	11/23	11/27	12/01	12/04	12/09	12/14	12/21
20	11/23	11/30	12/04	12/08	12/12	12/17	12/22	12/27	1/02
16	12/01	12/08	12/13	12/19	12/24	12/29	1/01	1/07	1/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	219	212	206	202	197	193	188	183	175
32	245	236	230	225	220	216	211	205	198
28	272	263	257	251	246	241	236	230	221
24	298	289	283	277	272	267	261	255	246
20	324	314	307	302	296	290	284	277	267
16	345	334	329	323	317	311	306	299	288

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CLINTON, MO US**

GHCND:USC00231711
 Elev: 770 ft. Lat: 38.395° N Lon: 93.771° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/01	4/29	4/27	4/23	4/20	4/16	4/11
32	5/01	4/26	4/22	4/19	4/16	4/13	4/09	4/05	3/31
28	4/20	4/15	4/11	4/08	4/05	4/02	3/30	3/25	3/19
24	4/11	4/06	4/03	3/31	3/27	3/22	3/18	3/13	3/07
20	4/03	3/29	3/22	3/18	3/14	3/10	3/05	3/01	2/24
16	3/22	3/15	3/10	3/06	3/03	2/28	2/24	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	9/30	10/03	10/06	10/09	10/12	10/16	10/20	10/24
32	10/04	10/09	10/14	10/18	10/21	10/24	10/27	10/31	11/04
28	10/15	10/22	10/25	10/29	11/01	11/03	11/06	11/10	11/16
24	10/26	11/01	11/04	11/07	11/11	11/15	11/19	11/24	11/29
20	11/04	11/10	11/15	11/20	11/24	11/27	12/01	12/04	12/10
16	11/13	11/22	11/27	11/30	12/03	12/06	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	187	179	173	169	164	160	156	151	144
32	209	201	196	191	187	182	177	172	164
28	231	223	217	213	208	204	199	193	186
24	256	247	240	235	230	225	219	213	205
20	280	271	265	259	254	248	243	236	226
16	302	293	286	280	275	270	265	258	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **POPLAR BLUFF MUNICIPAL AIRPORT, MO US**

GHCND:USW00003975
 Elev: 327 ft. Lat: 36.772° N Lon: 90.325° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/27	4/23	4/20	4/16	4/14	4/11	4/08	4/04	3/30
32	4/19	4/13	4/10	4/06	4/03	3/31	3/28	3/23	3/18
28	4/09	4/03	3/30	3/26	3/22	3/18	3/14	3/10	3/04
24	3/27	3/20	3/16	3/12	3/07	3/04	2/28	2/24	2/17
20	3/14	3/07	3/02	2/27	2/23	2/19	2/14	2/09	2/02
16	3/01	2/24	2/19	2/15	2/10	2/05	2/01	1/28	1/17
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/04	10/09	10/12	10/16	10/19	10/22	10/24	10/28	11/02
32	10/13	10/19	10/23	10/26	10/30	11/01	11/05	11/09	11/14
28	10/23	10/31	11/03	11/07	11/10	11/14	11/17	11/23	11/29
24	11/02	11/09	11/15	11/19	11/24	11/28	12/01	12/05	12/12
20	11/15	11/25	11/30	12/02	12/06	12/10	12/15	12/21	12/27
16	12/01	12/05	12/09	12/14	12/19	12/24	12/28	1/02	1/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	208	201	196	191	187	183	179	174	167
32	231	223	218	213	209	205	200	194	187
28	258	249	243	238	233	228	222	216	208
24	286	277	270	264	259	253	247	240	231
20	315	304	298	292	286	280	274	266	256
16	338	329	322	316	310	304	298	291	281

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SHELBINA, MO US**

GHCND:USC00237720
 Elev: 747 ft. Lat: 39.683° N Lon: 92.047° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/17	5/10	5/06	5/03	5/01	4/28	4/25	4/21	4/17
32	5/05	5/01	4/27	4/24	4/21	4/18	4/15	4/12	4/07
28	4/25	4/20	4/16	4/13	4/10	4/07	4/05	4/01	3/27
24	4/15	4/10	4/06	4/03	4/01	3/29	3/24	3/20	3/14
20	4/05	3/31	3/28	3/23	3/20	3/17	3/12	3/08	3/02
16	3/25	3/20	3/16	3/12	3/09	3/06	3/02	2/28	2/21
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/28	9/30	10/02	10/05	10/08	10/11	10/16
32	9/27	10/02	10/06	10/09	10/12	10/15	10/19	10/22	10/28
28	10/08	10/14	10/18	10/21	10/24	10/28	11/01	11/04	11/09
24	10/21	10/26	10/31	11/01	11/04	11/07	11/11	11/16	11/22
20	11/01	11/04	11/08	11/13	11/17	11/21	11/25	11/30	12/04
16	11/08	11/16	11/21	11/25	11/29	12/01	12/05	12/09	12/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	166	161	157	154	150	145	140	133
32	194	187	182	178	173	169	165	160	152
28	217	210	205	200	196	191	187	182	174
24	241	233	227	222	217	213	209	203	197
20	265	257	250	245	240	235	230	224	216
16	287	278	272	267	262	258	252	246	238

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **KANSAS CITY PLEASANT HILL, MO US**

GHCND:USC00236745
 Elev: 1000 ft. Lat: 38.810° N Lon: 94.265° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/04	4/30	4/27	4/24	4/21	4/18	4/15	4/11	4/07
32	4/25	4/20	4/17	4/13	4/11	4/08	4/05	4/02	3/29
28	4/16	4/11	4/08	4/05	4/03	3/31	3/28	3/24	3/18
24	4/08	4/04	3/31	3/28	3/24	3/21	3/17	3/13	3/07
20	3/31	3/25	3/21	3/17	3/13	3/10	3/06	3/02	2/25
16	3/21	3/15	3/11	3/07	3/04	3/01	2/25	2/19	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/04	10/08	10/11	10/14	10/17	10/20	10/23	10/27
32	10/09	10/15	10/19	10/22	10/25	10/28	10/31	11/03	11/07
28	10/20	10/26	10/30	11/01	11/04	11/07	11/10	11/14	11/19
24	11/01	11/04	11/08	11/11	11/14	11/17	11/21	11/25	12/01
20	11/07	11/13	11/17	11/21	11/25	11/28	12/01	12/05	12/11
16	11/16	11/22	11/27	11/30	12/03	12/06	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	187	182	178	173	170	165	160	152
32	214	208	203	199	195	191	187	182	174
28	236	229	223	219	215	211	206	201	194
24	258	250	244	240	235	230	226	220	213
20	280	271	265	260	255	250	245	240	231
16	301	292	285	280	275	270	264	258	250

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MAMMOTH SPRING, AR US**

GHCND:USC00034572
 Elev: 502 ft. Lat: 36.495° N Lon: 91.535° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/02	4/30	4/27	4/24	4/21	4/17	4/12
32	5/02	4/27	4/23	4/20	4/16	4/13	4/10	4/05	3/31
28	4/21	4/16	4/12	4/09	4/05	4/02	3/30	3/25	3/19
24	4/12	4/06	4/02	3/29	3/25	3/21	3/17	3/12	3/05
20	4/02	3/26	3/20	3/15	3/11	3/07	3/03	2/28	2/22
16	3/19	3/11	3/05	3/01	2/26	2/23	2/19	2/14	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/28	10/01	10/04	10/07	10/10	10/14	10/17	10/23
32	9/30	10/05	10/10	10/14	10/17	10/21	10/25	10/29	11/03
28	10/10	10/17	10/22	10/26	10/30	11/01	11/04	11/08	11/14
24	10/22	10/29	11/01	11/05	11/08	11/12	11/17	11/22	11/28
20	10/31	11/06	11/11	11/16	11/21	11/25	11/29	12/03	12/09
16	11/08	11/18	11/25	11/29	12/02	12/06	12/11	12/17	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	176	171	166	162	158	153	148	140
32	207	199	193	188	183	179	173	167	159
28	229	221	215	210	206	201	196	190	182
24	253	245	238	233	228	223	217	211	203
20	279	270	263	257	252	246	240	233	223
16	306	297	290	284	278	272	266	258	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: HOUSTON, MO US

GHCND:USC00234019
 Elev: 1263 ft. Lat: 37.319° N Lon: 91.963° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/15	5/08	5/05	5/01	4/29	4/26	4/22	4/17	4/11
32	5/04	4/30	4/26	4/22	4/18	4/14	4/10	4/05	3/30
28	4/25	4/19	4/14	4/10	4/06	4/02	3/30	3/24	3/19
24	4/16	4/10	4/04	3/31	3/27	3/22	3/18	3/14	3/07
20	4/06	3/30	3/23	3/19	3/14	3/10	3/05	2/28	2/22
16	3/24	3/15	3/09	3/04	3/01	2/25	2/21	2/16	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/26	9/29	10/01	10/04	10/06	10/09	10/12	10/17
32	9/28	10/03	10/06	10/10	10/13	10/16	10/19	10/23	10/28
28	10/06	10/13	10/18	10/22	10/25	10/28	11/01	11/05	11/11
24	10/19	10/26	10/31	11/03	11/06	11/10	11/14	11/20	11/27
20	10/31	11/05	11/10	11/16	11/20	11/25	11/29	12/03	12/08
16	11/12	11/21	11/26	11/30	12/02	12/06	12/10	12/15	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	171	166	161	157	153	149	144	136
32	202	193	187	182	177	172	168	162	154
28	226	217	211	206	200	196	190	184	175
24	251	242	235	230	224	219	213	206	197
20	278	268	261	255	249	244	237	230	220
16	302	293	287	281	276	270	264	257	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **NEOSHO, MO US**

GHCND:USC00235976
 Elev: 1011 ft. Lat: 36.864° N Lon: 94.360° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/13	5/07	5/04	5/01	4/29	4/26	4/23	4/19	4/14
32	5/03	4/29	4/26	4/22	4/18	4/15	4/12	4/07	4/01
28	4/23	4/17	4/13	4/10	4/06	4/03	3/31	3/27	3/21
24	4/13	4/07	4/03	3/31	3/27	3/23	3/19	3/14	3/07
20	4/03	3/28	3/23	3/18	3/14	3/10	3/05	2/28	2/23
16	3/21	3/15	3/10	3/05	3/01	2/26	2/22	2/16	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/27	10/01	10/04	10/07	10/10	10/14	10/18	10/24
32	9/29	10/05	10/10	10/14	10/18	10/21	10/25	10/29	11/02
28	10/10	10/17	10/22	10/25	10/29	11/01	11/04	11/08	11/14
24	10/20	10/28	11/01	11/05	11/09	11/13	11/17	11/21	11/27
20	11/01	11/06	11/12	11/17	11/21	11/25	11/30	12/03	12/09
16	11/12	11/20	11/26	11/30	12/02	12/05	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	183	175	169	164	160	155	150	145	136
32	205	197	191	186	181	176	171	165	156
28	228	220	214	209	204	199	194	188	180
24	253	243	237	231	226	221	215	209	200
20	278	269	262	256	251	245	239	232	222
16	303	293	286	280	275	269	263	257	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: SWEET SPRINGS, MO US

GHCND:USC00238223
 Elev: 675 ft. Lat: 38.966° N Lon: 93.420° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	5/01	4/29	4/27	4/24	4/21	4/18	4/13
32	4/30	4/26	4/22	4/20	4/17	4/14	4/11	4/07	4/02
28	4/20	4/16	4/12	4/09	4/06	4/03	3/31	3/28	3/21
24	4/12	4/07	4/03	3/31	3/28	3/23	3/19	3/15	3/09
20	4/02	3/28	3/23	3/19	3/15	3/11	3/07	3/03	2/26
16	3/22	3/16	3/11	3/07	3/04	3/01	2/26	2/22	2/15
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/25	9/28	10/01	10/04	10/07	10/11	10/15	10/20
32	9/30	10/04	10/09	10/13	10/16	10/20	10/23	10/27	11/01
28	10/11	10/17	10/21	10/25	10/29	11/01	11/03	11/06	11/12
24	10/23	10/30	11/01	11/04	11/07	11/10	11/14	11/18	11/25
20	11/03	11/07	11/11	11/15	11/19	11/23	11/28	12/01	12/06
16	11/11	11/17	11/22	11/27	11/30	12/03	12/06	12/11	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	172	167	163	159	155	150	145	138
32	202	195	190	185	181	176	172	166	158
28	225	217	212	208	204	199	195	189	181
24	248	240	234	229	225	220	215	210	202
20	273	264	258	252	247	243	238	231	223
16	294	285	279	274	269	264	259	253	244

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BUFFALO, MO US**

GHCND:USC00231087
 Elev: 1086 ft. Lat: 37.667° N Lon: 93.107° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/17	5/12	5/08	5/05	5/02	4/30	4/27	4/23	4/18
32	5/06	5/02	4/29	4/26	4/22	4/19	4/16	4/12	4/07
28	4/27	4/22	4/18	4/14	4/11	4/08	4/04	3/31	3/26
24	4/16	4/10	4/07	4/04	3/31	3/28	3/24	3/20	3/15
20	4/07	4/02	3/28	3/24	3/20	3/17	3/13	3/08	3/03
16	3/29	3/22	3/17	3/13	3/09	3/05	3/01	2/26	2/18
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/16	9/22	9/25	9/28	10/01	10/04	10/07	10/10	10/15
32	9/24	9/29	10/03	10/06	10/10	10/14	10/18	10/22	10/28
28	10/02	10/09	10/15	10/19	10/22	10/26	10/29	11/02	11/07
24	10/15	10/22	10/27	10/31	11/02	11/05	11/09	11/14	11/19
20	10/27	11/02	11/05	11/09	11/13	11/17	11/21	11/26	12/01
16	11/05	11/12	11/17	11/21	11/25	11/29	12/01	12/06	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	170	163	158	153	149	145	141	136	128
32	192	185	179	174	169	165	160	154	147
28	215	208	202	197	192	187	182	176	167
24	238	231	224	219	214	210	205	199	191
20	262	254	247	242	236	231	226	219	211
16	286	277	270	265	259	254	248	242	232

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: OREGON, MO US

GHCND:USC00236357
 Elev: 1045 ft. Lat: 39.981° N Lon: 95.146° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/03	4/30	4/28	4/25	4/23	4/20	4/16	4/11
32	4/29	4/25	4/22	4/19	4/16	4/13	4/10	4/06	4/03
28	4/21	4/16	4/12	4/09	4/06	4/04	4/01	3/29	3/23
24	4/13	4/07	4/04	4/01	3/30	3/26	3/22	3/18	3/13
20	4/03	3/30	3/26	3/22	3/18	3/15	3/11	3/07	3/02
16	3/25	3/20	3/16	3/12	3/08	3/05	3/02	2/27	2/20
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	9/30	10/03	10/06	10/09	10/12	10/15	10/20
32	10/01	10/06	10/10	10/13	10/16	10/20	10/23	10/26	10/31
28	10/12	10/18	10/22	10/25	10/28	10/31	11/02	11/06	11/12
24	10/22	10/28	11/01	11/04	11/06	11/10	11/14	11/18	11/24
20	11/01	11/05	11/09	11/13	11/16	11/20	11/24	11/28	12/04
16	11/07	11/14	11/18	11/22	11/26	11/30	12/03	12/07	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	183	176	171	167	163	159	155	150	144
32	204	197	192	187	183	179	175	170	162
28	224	217	212	208	203	199	195	190	183
24	245	237	232	227	223	218	214	208	201
20	267	259	252	247	242	237	232	226	219
16	286	277	271	266	261	256	251	245	237

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MEXICO, MO US**

GHCND:USC00235541
 Elev: 802 ft. Lat: 39.176° N Lon: 91.886° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/03	4/30	4/27	4/24	4/21	4/17	4/13	4/08
32	4/28	4/23	4/19	4/15	4/12	4/09	4/05	4/02	3/29
28	4/17	4/12	4/08	4/05	4/02	3/31	3/28	3/23	3/18
24	4/08	4/03	3/31	3/28	3/24	3/20	3/17	3/13	3/07
20	3/31	3/25	3/20	3/17	3/13	3/10	3/06	3/02	2/25
16	3/21	3/15	3/10	3/06	3/03	2/28	2/25	2/19	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/02	10/06	10/09	10/12	10/15	10/18	10/22	10/27
32	10/07	10/13	10/17	10/21	10/24	10/27	10/30	11/02	11/07
28	10/18	10/25	10/29	11/01	11/04	11/07	11/11	11/15	11/20
24	11/01	11/05	11/08	11/12	11/15	11/19	11/24	11/29	12/03
20	11/08	11/14	11/19	11/24	11/28	12/01	12/04	12/08	12/14
16	11/17	11/24	11/28	12/01	12/05	12/09	12/12	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	185	179	174	170	166	161	155	148
32	214	207	202	198	193	189	184	179	172
28	237	230	224	219	215	211	206	201	193
24	260	252	246	241	236	232	227	221	213
20	283	274	267	262	257	252	247	241	232
16	303	294	287	281	276	271	266	260	251

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST LOUIS SCIENCE CTR, MO US**

GHCND:USC00237452
 Elev: 545 ft. Lat: 38.629° N Lon: 90.271° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/26	4/21	4/18	4/15	4/12	4/09	4/06	4/03	3/29
32	4/18	4/13	4/09	4/06	4/03	3/31	3/28	3/23	3/18
28	4/08	4/03	3/31	3/26	3/22	3/19	3/16	3/12	3/06
24	3/29	3/23	3/18	3/15	3/11	3/08	3/04	3/01	2/23
20	3/18	3/12	3/08	3/04	3/01	2/27	2/22	2/17	2/10
16	3/10	3/03	2/28	2/24	2/19	2/15	2/10	2/05	1/31
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/11	10/16	10/20	10/23	10/25	10/28	10/31	11/03	11/08
32	10/22	10/27	10/31	11/02	11/05	11/08	11/12	11/16	11/23
28	11/02	11/06	11/10	11/14	11/17	11/21	11/26	11/30	12/05
24	11/09	11/16	11/21	11/26	11/29	12/02	12/05	12/10	12/16
20	11/20	11/27	12/01	12/04	12/08	12/11	12/15	12/20	12/25
16	11/30	12/05	12/09	12/12	12/16	12/21	12/25	12/29	1/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	215	208	204	200	196	192	188	183	177
32	239	231	225	221	216	212	208	203	195
28	263	255	249	244	239	235	230	224	216
24	285	277	271	266	261	256	251	245	236
20	306	297	291	286	281	276	271	265	256
16	326	316	310	304	299	294	288	282	273

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **TRUMAN DAM AND RESRVR, MO US**

GHCND:USC00238466
 Elev: 701 ft. Lat: 38.260° N Lon: 93.414° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/02	4/29	4/26	4/24	4/21	4/18	4/15	4/10
32	4/26	4/22	4/19	4/16	4/13	4/11	4/08	4/04	3/30
28	4/18	4/13	4/09	4/06	4/03	3/31	3/28	3/23	3/18
24	4/09	4/02	3/31	3/26	3/22	3/18	3/14	3/10	3/05
20	3/28	3/21	3/16	3/12	3/09	3/05	3/02	2/28	2/21
16	3/17	3/10	3/06	3/03	2/28	2/26	2/21	2/15	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/29	10/03	10/07	10/11	10/14	10/18	10/21	10/25	10/30
32	10/07	10/15	10/19	10/23	10/26	10/29	11/01	11/04	11/10
28	10/20	10/27	10/31	11/02	11/05	11/09	11/13	11/17	11/22
24	11/01	11/06	11/11	11/14	11/18	11/22	11/26	11/30	12/04
20	11/12	11/18	11/22	11/26	11/30	12/02	12/05	12/10	12/15
16	11/22	11/29	12/02	12/05	12/09	12/13	12/17	12/21	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	186	182	177	173	169	164	159	152
32	215	208	203	198	194	190	185	180	172
28	239	231	225	220	216	212	207	201	193
24	264	256	249	244	239	234	229	223	215
20	287	278	273	268	263	258	253	248	239
16	309	300	294	288	283	278	273	267	258

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: PERRYVILLE WATR PLANT, MO US

GHCND:USC00236641
 Elev: 502 ft. Lat: 37.734° N Lon: 89.920° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/16	5/10	5/06	5/02	4/30	4/27	4/24	4/20	4/15
32	5/05	5/01	4/27	4/23	4/20	4/17	4/14	4/09	4/03
28	4/24	4/18	4/14	4/11	4/07	4/04	3/31	3/28	3/23
24	4/12	4/06	4/02	3/30	3/26	3/23	3/20	3/16	3/11
20	4/01	3/27	3/22	3/18	3/15	3/12	3/08	3/03	2/27
16	3/21	3/15	3/10	3/06	3/02	2/28	2/23	2/18	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/26	9/30	10/01	10/04	10/07	10/10	10/14	10/19
32	9/30	10/03	10/07	10/11	10/14	10/18	10/21	10/25	10/30
28	10/07	10/13	10/19	10/22	10/26	10/29	11/01	11/05	11/11
24	10/15	10/23	10/28	11/01	11/05	11/09	11/14	11/19	11/28
20	10/24	11/01	11/07	11/14	11/19	11/26	12/01	12/04	12/10
16	11/04	11/16	11/25	12/01	12/04	12/07	12/11	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	170	165	160	156	152	147	142	134
32	200	193	187	181	177	172	167	162	153
28	224	216	210	205	200	196	191	184	176
24	249	240	234	228	223	218	212	206	197
20	276	267	260	254	248	242	235	227	217
16	302	293	286	280	275	269	262	253	242

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **VANDALIA, MO US**

GHCND:USC00238577
 Elev: 764 ft. Lat: 39.317° N Lon: 91.483° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/13	4/08
32	4/27	4/22	4/18	4/14	4/12	4/09	4/06	4/03	3/30
28	4/17	4/12	4/08	4/06	4/03	3/31	3/28	3/23	3/18
24	4/08	4/03	3/31	3/28	3/23	3/20	3/17	3/13	3/07
20	3/31	3/24	3/20	3/16	3/12	3/09	3/06	3/02	2/25
16	3/20	3/14	3/10	3/06	3/03	2/28	2/25	2/20	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	9/30	10/03	10/06	10/10	10/13	10/16	10/20	10/24
32	10/05	10/11	10/15	10/19	10/22	10/25	10/28	11/01	11/05
28	10/16	10/22	10/26	10/30	11/01	11/04	11/07	11/12	11/17
24	10/26	11/01	11/05	11/08	11/12	11/15	11/19	11/24	12/01
20	11/05	11/11	11/16	11/20	11/24	11/28	12/01	12/05	12/11
16	11/14	11/22	11/27	12/01	12/03	12/07	12/11	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	183	177	173	169	165	160	155	148
32	212	205	200	195	191	187	182	177	170
28	234	226	221	216	212	208	203	197	190
24	256	248	242	237	232	228	223	217	209
20	279	270	264	259	254	249	244	239	230
16	300	291	285	280	275	270	265	258	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ELDORADO SPRINGS, MO US**

GHCND:USC00232511
 Elev: 920 ft. Lat: 37.864° N Lon: 94.016° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/04	4/30	4/28	4/25	4/22	4/19	4/15	4/09
32	5/02	4/26	4/22	4/18	4/15	4/12	4/08	4/04	3/30
28	4/23	4/15	4/11	4/07	4/04	4/01	3/29	3/24	3/18
24	4/10	4/04	3/31	3/28	3/23	3/19	3/16	3/11	3/05
20	3/31	3/25	3/20	3/15	3/11	3/07	3/04	2/28	2/21
16	3/21	3/14	3/09	3/05	3/02	2/27	2/22	2/16	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/28	10/02	10/06	10/10	10/13	10/17	10/21	10/27
32	9/30	10/07	10/12	10/17	10/21	10/25	10/28	11/01	11/06
28	10/11	10/20	10/25	10/29	11/01	11/04	11/08	11/13	11/19
24	10/25	11/01	11/05	11/08	11/13	11/17	11/21	11/27	12/02
20	11/04	11/10	11/16	11/21	11/25	11/29	12/02	12/07	12/14
16	11/13	11/22	11/28	12/01	12/04	12/08	12/12	12/17	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	182	176	171	166	161	156	150	142
32	211	203	197	192	187	182	176	170	161
28	234	225	219	214	209	204	198	192	183
24	259	250	244	238	233	227	222	215	205
20	283	274	267	261	256	250	244	237	228
16	305	296	288	283	277	271	265	259	250

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BRUNSWICK, MO US**

GHCND:USC00231037
 Elev: 662 ft. Lat: 39.425° N Lon: 93.133° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/03	4/30	4/27	4/24	4/21	4/18	4/15	4/09
32	4/27	4/23	4/19	4/16	4/13	4/10	4/07	4/04	3/31
28	4/18	4/13	4/09	4/06	4/04	4/01	3/29	3/25	3/19
24	4/10	4/05	4/01	3/29	3/25	3/21	3/18	3/13	3/08
20	4/01	3/26	3/22	3/18	3/14	3/11	3/07	3/03	2/26
16	3/22	3/16	3/11	3/07	3/04	3/01	2/26	2/21	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/29	10/02	10/06	10/10	10/13	10/17	10/21	10/26
32	10/03	10/10	10/15	10/19	10/22	10/25	10/29	11/01	11/06
28	10/17	10/23	10/27	10/31	11/02	11/05	11/08	11/13	11/18
24	10/29	11/02	11/06	11/09	11/13	11/16	11/20	11/25	12/01
20	11/06	11/12	11/16	11/20	11/24	11/28	12/01	12/05	12/11
16	11/14	11/21	11/26	11/30	12/03	12/06	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	182	177	172	168	163	158	153	145
32	212	205	200	195	191	186	181	175	167
28	234	226	221	216	212	208	203	198	190
24	258	249	243	238	233	228	223	217	210
20	279	271	264	259	254	249	244	238	230
16	299	291	284	279	274	269	264	257	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CASSVILLE RANGER STATION, MO US**

GHCND:USC00231383
 Elev: 1340 ft. Lat: 36.673° N Lon: 93.858° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/12	5/07	5/04	5/01	4/29	4/27	4/24	4/20	4/15
32	5/03	4/29	4/26	4/23	4/20	4/17	4/14	4/10	4/04
28	4/24	4/20	4/16	4/13	4/10	4/07	4/03	3/31	3/24
24	4/16	4/11	4/07	4/04	4/01	3/29	3/23	3/17	3/10
20	4/08	4/02	3/29	3/23	3/18	3/13	3/08	3/03	2/26
16	3/27	3/19	3/13	3/08	3/03	2/28	2/25	2/20	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/26	9/30	10/02	10/05	10/08	10/12	10/16	10/20
32	9/29	10/04	10/08	10/12	10/16	10/19	10/23	10/27	11/02
28	10/09	10/15	10/20	10/23	10/27	10/31	11/03	11/07	11/13
24	10/19	10/26	10/31	11/03	11/07	11/11	11/15	11/19	11/26
20	11/01	11/06	11/11	11/16	11/20	11/23	11/27	12/01	12/06
16	11/10	11/19	11/23	11/28	12/01	12/04	12/08	12/13	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	172	167	162	158	154	150	145	137
32	200	193	187	183	178	174	169	163	156
28	223	214	208	204	199	195	190	184	176
24	247	238	231	225	220	215	210	204	195
20	273	264	256	250	244	239	233	226	216
16	298	288	281	276	270	264	258	251	241

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SELIGMAN, MO US**

GHCND:USC00237645
 Elev: 1530 ft. Lat: 36.542° N Lon: 93.937° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/16	5/10	5/06	5/03	4/30	4/28	4/25	4/21	4/16
32	5/04	4/30	4/27	4/24	4/21	4/17	4/14	4/10	4/05
28	4/24	4/20	4/16	4/13	4/10	4/07	4/03	3/31	3/25
24	4/16	4/11	4/08	4/04	4/01	3/29	3/24	3/19	3/13
20	4/08	4/02	3/29	3/24	3/19	3/15	3/11	3/05	2/28
16	3/28	3/20	3/15	3/09	3/05	3/01	2/25	2/19	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/26	9/29	10/02	10/05	10/08	10/11	10/15	10/20
32	9/29	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/30
28	10/09	10/16	10/20	10/23	10/27	10/30	11/02	11/06	11/12
24	10/19	10/26	10/31	11/03	11/06	11/10	11/14	11/19	11/25
20	10/31	11/05	11/09	11/14	11/18	11/23	11/27	12/01	12/07
16	11/07	11/16	11/22	11/27	12/01	12/04	12/08	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	170	164	160	155	151	146	141	133
32	199	192	187	182	177	173	168	163	154
28	222	215	209	204	200	196	191	186	178
24	246	237	231	225	220	215	210	204	196
20	273	263	255	249	244	238	232	224	215
16	301	290	283	276	270	264	258	250	240

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **WEST PLAINS, MO US**

GHCND:USC00238880
 Elev: 1010 ft. Lat: 36.742° N Lon: 91.835° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/03	4/30	4/28	4/25	4/22	4/19	4/14
32	5/01	4/27	4/23	4/20	4/17	4/14	4/10	4/07	4/02
28	4/20	4/15	4/12	4/09	4/06	4/03	3/31	3/28	3/22
24	4/11	4/06	4/03	3/31	3/28	3/24	3/20	3/17	3/11
20	4/02	3/28	3/23	3/19	3/16	3/13	3/09	3/04	2/27
16	3/21	3/15	3/10	3/06	3/03	2/28	2/23	2/18	2/10
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	9/30	10/02	10/05	10/08	10/11	10/14	10/17	10/22
32	10/03	10/08	10/12	10/15	10/18	10/21	10/24	10/27	11/01
28	10/13	10/19	10/22	10/26	10/29	11/01	11/05	11/08	11/14
24	10/24	10/31	11/03	11/07	11/10	11/14	11/17	11/22	11/28
20	11/04	11/09	11/14	11/18	11/23	11/26	11/30	12/04	12/10
16	11/13	11/22	11/27	12/01	12/04	12/07	12/12	12/17	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	176	171	167	163	159	155	150	143
32	205	197	192	188	184	179	175	170	163
28	227	219	214	210	206	201	197	192	185
24	250	242	237	232	227	223	218	212	204
20	275	267	261	255	250	245	240	234	225
16	303	294	287	281	276	270	264	258	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **NEVADA WATER PLANT, MO US**

GHCND:USC00235987
 Elev: 820 ft. Lat: 37.839° N Lon: 94.374° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/29	4/25	4/21	4/18	4/14	4/11	4/07	4/02
32	4/23	4/17	4/13	4/09	4/06	4/03	4/01	3/28	3/21
28	4/11	4/07	4/03	3/31	3/28	3/24	3/20	3/15	3/08
24	4/03	3/28	3/23	3/19	3/15	3/12	3/07	3/02	2/26
20	3/23	3/16	3/11	3/07	3/03	2/28	2/25	2/20	2/13
16	3/14	3/08	3/03	2/28	2/24	2/20	2/15	2/09	2/01
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/27	10/02	10/07	10/11	10/15	10/19	10/22	10/26	11/01
32	10/05	10/13	10/18	10/22	10/26	10/30	11/01	11/05	11/11
28	10/17	10/25	10/31	11/02	11/05	11/09	11/13	11/17	11/24
24	10/31	11/05	11/10	11/14	11/18	11/22	11/26	11/30	12/04
20	11/08	11/16	11/22	11/25	11/29	12/02	12/05	12/10	12/17
16	11/19	11/27	12/01	12/04	12/08	12/12	12/16	12/20	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	202	194	188	183	178	173	168	162	154
32	223	215	210	204	200	195	189	183	174
28	247	238	232	227	222	217	211	205	196
24	272	262	256	250	245	240	234	227	218
20	295	286	279	273	268	263	257	251	242
16	315	305	298	293	288	282	276	270	260

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **VERSAILLES, MO US**

GHCND:USC00238603
 Elev: 1005 ft. Lat: 38.432° N Lon: 92.840° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/16	5/10	5/06	5/03	4/30	4/28	4/25	4/21	4/17
32	5/07	5/02	4/28	4/24	4/21	4/17	4/14	4/10	4/05
28	4/29	4/21	4/17	4/13	4/09	4/06	4/03	3/31	3/25
24	4/17	4/10	4/06	4/03	3/31	3/28	3/23	3/18	3/12
20	4/07	4/01	3/28	3/23	3/18	3/15	3/10	3/06	2/28
16	3/28	3/20	3/15	3/11	3/07	3/03	2/28	2/24	2/17
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/28	10/01	10/04	10/07	10/11	10/15	10/19
32	9/28	10/03	10/08	10/12	10/16	10/19	10/23	10/26	10/30
28	10/10	10/16	10/20	10/24	10/27	10/30	11/01	11/05	11/10
24	10/21	10/27	11/01	11/03	11/05	11/08	11/12	11/16	11/22
20	11/01	11/05	11/09	11/13	11/16	11/20	11/24	11/29	12/04
16	11/09	11/15	11/19	11/24	11/27	12/01	12/04	12/08	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	176	169	163	159	154	150	145	140	133
32	199	191	185	181	176	171	166	160	152
28	220	213	208	203	198	194	189	183	174
24	243	235	229	224	219	215	210	205	197
20	267	258	252	247	242	237	231	225	217
16	289	280	274	268	263	258	253	247	238

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: INDEPENDENCE, MO US

GHCND:USC00234154
 Elev: 985 ft. Lat: 39.065° N Lon: 94.386° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	4/30	4/27	4/24	4/21	4/18	4/15	4/12	4/07
32	4/24	4/20	4/16	4/13	4/10	4/08	4/05	4/02	3/29
28	4/15	4/11	4/07	4/04	4/02	3/31	3/27	3/23	3/17
24	4/08	4/02	3/31	3/26	3/23	3/19	3/16	3/11	3/05
20	3/30	3/24	3/19	3/16	3/12	3/09	3/05	3/01	2/23
16	3/21	3/15	3/10	3/06	3/03	2/28	2/24	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/03	10/07	10/10	10/14	10/16	10/19	10/22	10/26
32	10/08	10/14	10/18	10/22	10/25	10/27	10/30	11/02	11/07
28	10/19	10/26	10/30	11/01	11/04	11/07	11/11	11/15	11/20
24	11/01	11/04	11/09	11/13	11/16	11/20	11/24	11/28	12/02
20	11/08	11/15	11/20	11/24	11/28	12/01	12/03	12/07	12/13
16	11/18	11/26	11/29	12/02	12/05	12/08	12/12	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	186	181	177	173	169	164	159	151
32	215	208	203	199	195	191	186	181	174
28	238	230	225	220	216	211	207	201	193
24	262	253	247	242	238	233	228	222	214
20	284	275	269	264	259	255	249	243	235
16	304	295	289	283	278	273	268	262	253

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST CHARLES, MO US**

GHCND:USC00237397
 Elev: 467 ft. Lat: 38.815° N Lon: 90.517° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/03	4/30	4/27	4/24	4/21	4/17	4/14	4/08
32	4/27	4/22	4/18	4/15	4/12	4/09	4/06	4/02	3/27
28	4/17	4/11	4/07	4/04	4/01	3/29	3/24	3/20	3/15
24	4/05	3/31	3/27	3/23	3/19	3/16	3/13	3/09	3/03
20	3/24	3/19	3/15	3/11	3/08	3/04	3/01	2/26	2/18
16	3/15	3/09	3/04	3/01	2/27	2/23	2/18	2/12	2/04
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/02	10/06	10/09	10/12	10/15	10/19	10/22	10/27
32	10/07	10/13	10/17	10/21	10/24	10/27	10/31	11/03	11/08
28	10/19	10/25	10/30	11/01	11/04	11/07	11/11	11/15	11/22
24	10/31	11/05	11/09	11/14	11/17	11/21	11/26	12/01	12/05
20	11/10	11/17	11/23	11/27	12/01	12/03	12/07	12/12	12/18
16	11/23	11/30	12/03	12/06	12/09	12/13	12/17	12/22	12/27
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	185	180	175	171	166	162	156	149
32	216	209	203	199	194	190	185	179	172
28	240	233	227	222	218	213	208	203	195
24	266	258	252	247	242	237	232	226	217
20	291	282	276	271	266	261	256	250	241
16	313	304	297	292	287	282	276	270	261

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST PETERS 2 SSE, MO US**

GHCND:USC00237475
 Elev: 554 ft. Lat: 38.756° N Lon: 90.610° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/07	5/02	4/29	4/26	4/23	4/20	4/16	4/12	4/07
32	4/25	4/21	4/17	4/14	4/11	4/08	4/05	4/01	3/27
28	4/17	4/11	4/07	4/04	4/01	3/30	3/26	3/21	3/17
24	4/06	4/01	3/29	3/24	3/21	3/18	3/14	3/10	3/05
20	3/26	3/20	3/16	3/13	3/10	3/06	3/03	2/28	2/20
16	3/17	3/11	3/07	3/03	2/28	2/25	2/21	2/14	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/29	10/03	10/06	10/10	10/13	10/16	10/19	10/22	10/26
32	10/08	10/14	10/18	10/21	10/24	10/27	10/31	11/02	11/08
28	10/20	10/26	10/30	11/01	11/04	11/07	11/11	11/15	11/21
24	11/01	11/05	11/09	11/13	11/16	11/20	11/25	11/29	12/04
20	11/10	11/16	11/21	11/25	11/29	12/01	12/05	12/09	12/15
16	11/20	11/27	12/01	12/04	12/07	12/11	12/15	12/20	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	186	181	176	172	167	162	157	150
32	217	209	204	200	196	191	187	182	174
28	239	232	226	222	217	213	208	203	195
24	263	256	250	245	240	236	231	225	217
20	287	279	272	267	262	257	252	247	239
16	309	299	293	288	282	277	272	265	257

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ST LOUIS LAMBERT INTERNATIONAL AIRPORT, MO US**

GHCND:USW00013994
 Elev: 531 ft. Lat: 38.752° N Lon: 90.374° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/26	4/22	4/19	4/15	4/12	4/10	4/07	4/03	3/30
32	4/18	4/12	4/09	4/06	4/03	4/01	3/29	3/25	3/20
28	4/08	4/03	3/31	3/28	3/24	3/21	3/18	3/14	3/09
24	3/31	3/24	3/20	3/17	3/14	3/10	3/07	3/03	2/27
20	3/19	3/14	3/10	3/06	3/03	2/28	2/24	2/19	2/11
16	3/11	3/05	3/01	2/26	2/21	2/17	2/12	2/06	1/31
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/09	10/14	10/18	10/21	10/24	10/26	10/29	11/01	11/06
32	10/19	10/24	10/28	10/31	11/03	11/06	11/09	11/12	11/18
28	10/31	11/03	11/07	11/10	11/13	11/17	11/21	11/25	12/01
24	11/07	11/13	11/18	11/22	11/26	11/29	12/02	12/06	12/12
20	11/17	11/25	11/29	12/01	12/05	12/08	12/12	12/16	12/22
16	11/27	12/01	12/05	12/09	12/13	12/17	12/21	12/25	12/31
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	213	206	201	197	193	189	184	179	173
32	234	227	221	217	213	209	205	200	192
28	256	249	244	239	234	230	225	220	212
24	279	271	265	261	256	251	246	241	232
20	301	293	286	281	276	272	267	261	253
16	322	312	305	300	295	289	284	277	268

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **KANSAS CITY INTERNATIONAL AIRPORT, MO US**

GHCND:USW00003947
 Elev: 1005 ft. Lat: 39.297° N Lon: 94.731° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	5/01	4/29	4/26	4/23	4/20	4/17	4/14	4/09
32	4/27	4/23	4/19	4/15	4/12	4/10	4/07	4/04	3/31
28	4/18	4/12	4/09	4/06	4/04	4/01	3/30	3/25	3/20
24	4/09	4/04	4/01	3/29	3/25	3/22	3/18	3/14	3/07
20	4/01	3/26	3/22	3/18	3/14	3/11	3/07	3/02	2/25
16	3/22	3/16	3/11	3/07	3/04	3/01	2/26	2/21	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/05	10/08	10/12	10/15	10/18	10/21	10/26
32	10/06	10/12	10/16	10/20	10/23	10/26	10/29	11/01	11/06
28	10/18	10/23	10/28	10/31	11/02	11/05	11/08	11/13	11/18
24	10/29	11/02	11/05	11/09	11/12	11/15	11/19	11/24	11/30
20	11/04	11/10	11/15	11/19	11/22	11/26	11/30	12/03	12/09
16	11/12	11/20	11/25	11/29	12/01	12/04	12/08	12/13	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	183	178	174	170	165	161	156	148
32	212	205	200	196	191	187	183	177	169
28	233	226	221	216	212	208	203	198	191
24	255	248	242	237	232	228	223	217	209
20	277	269	263	257	252	248	243	236	228
16	298	289	283	277	272	267	261	255	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CARROLLTON, MO US**

GHCND:USC00231340
 Elev: 705 ft. Lat: 39.359° N Lon: 93.489° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	5/01	4/29	4/27	4/24	4/21	4/18	4/13
32	5/01	4/27	4/24	4/20	4/17	4/14	4/11	4/08	4/03
28	4/23	4/18	4/13	4/10	4/07	4/04	4/01	3/28	3/22
24	4/13	4/08	4/04	3/31	3/28	3/24	3/21	3/17	3/11
20	4/03	3/29	3/24	3/20	3/16	3/12	3/09	3/05	2/28
16	3/23	3/17	3/12	3/08	3/05	3/02	2/28	2/23	2/16
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/25	9/29	10/01	10/04	10/08	10/11	10/16	10/21
32	9/29	10/04	10/09	10/13	10/17	10/20	10/24	10/27	11/01
28	10/11	10/17	10/22	10/25	10/29	11/01	11/03	11/07	11/12
24	10/25	10/31	11/03	11/05	11/08	11/11	11/14	11/18	11/24
20	11/03	11/08	11/12	11/15	11/19	11/23	11/27	12/01	12/05
16	11/12	11/18	11/23	11/27	11/30	12/02	12/06	12/11	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	174	168	164	160	156	152	147	140
32	203	195	190	185	181	177	172	166	158
28	224	217	212	208	203	199	194	188	180
24	248	239	234	229	225	220	216	210	203
20	271	262	256	251	246	241	236	231	222
16	293	284	277	272	267	263	258	251	243

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **HIGGINSVILLE, MO US**

GHCND:USC00233838
 Elev: 836 ft. Lat: 39.073° N Lon: 93.708° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/30	4/27	4/24	4/21	4/19	4/15	4/12	4/07
32	4/25	4/21	4/18	4/14	4/12	4/09	4/06	4/03	3/29
28	4/17	4/12	4/08	4/05	4/03	3/31	3/28	3/23	3/18
24	4/08	4/03	3/31	3/27	3/24	3/20	3/16	3/12	3/06
20	3/31	3/24	3/20	3/16	3/13	3/09	3/05	3/01	2/24
16	3/20	3/15	3/10	3/06	3/03	2/28	2/25	2/20	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/30	10/04	10/07	10/10	10/13	10/16	10/20	10/24
32	10/05	10/11	10/15	10/19	10/22	10/24	10/27	10/31	11/04
28	10/18	10/24	10/27	10/31	11/01	11/04	11/08	11/12	11/18
24	10/31	11/03	11/06	11/10	11/13	11/16	11/20	11/25	11/30
20	11/06	11/12	11/16	11/20	11/24	11/28	12/01	12/04	12/10
16	11/15	11/21	11/26	11/30	12/03	12/06	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	183	178	174	170	166	162	157	150
32	212	205	200	195	191	187	183	178	171
28	234	227	222	217	213	209	204	200	192
24	258	249	244	239	234	230	225	219	212
20	279	271	265	260	255	250	245	239	231
16	299	290	284	279	274	269	264	258	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **UNIONVILLE, MO US**

GHCND:USC00238523
 Elev: 1060 ft. Lat: 40.475° N Lon: 93.003° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/06	5/03	5/01	4/29	4/27	4/24	4/20	4/16
32	5/01	4/28	4/25	4/22	4/19	4/17	4/13	4/10	4/06
28	4/23	4/19	4/15	4/12	4/10	4/07	4/05	4/01	3/28
24	4/17	4/11	4/08	4/05	4/02	3/31	3/27	3/22	3/17
20	4/09	4/04	3/31	3/28	3/23	3/20	3/16	3/11	3/06
16	3/31	3/25	3/20	3/16	3/12	3/09	3/05	3/02	2/25
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/27	9/30	10/03	10/05	10/08	10/11	10/14	10/19
32	10/01	10/06	10/11	10/14	10/16	10/19	10/22	10/25	10/30
28	10/13	10/18	10/21	10/24	10/27	10/30	11/01	11/04	11/09
24	10/21	10/27	10/31	11/02	11/05	11/08	11/11	11/15	11/20
20	11/01	11/04	11/08	11/12	11/15	11/19	11/23	11/27	12/02
16	11/07	11/13	11/18	11/22	11/26	11/29	12/01	12/05	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	171	166	162	158	155	151	146	140
32	198	192	187	183	179	175	172	167	160
28	219	212	207	203	199	195	191	186	180
24	239	231	226	222	217	213	209	204	196
20	261	253	247	242	237	233	228	223	215
16	281	273	267	262	257	252	247	241	233

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: VIENNA 2 WNW, MO US

GHCND:USC00238620
 Elev: 770 ft. Lat: 38.202° N Lon: 91.981° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/04	5/01	4/28	4/25	4/22	4/18	4/14	4/09
32	4/30	4/24	4/20	4/17	4/13	4/10	4/06	4/02	3/28
28	4/17	4/12	4/08	4/04	4/01	3/30	3/26	3/21	3/16
24	4/08	4/02	3/29	3/25	3/20	3/17	3/13	3/08	3/02
20	3/28	3/21	3/16	3/12	3/08	3/04	2/28	2/24	2/17
16	3/16	3/10	3/04	3/01	2/25	2/21	2/16	2/11	2/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	9/29	10/02	10/05	10/09	10/12	10/16	10/19	10/25
32	10/03	10/08	10/13	10/17	10/21	10/24	10/28	11/01	11/05
28	10/14	10/21	10/25	10/30	11/01	11/05	11/08	11/13	11/19
24	10/25	11/01	11/05	11/09	11/13	11/17	11/21	11/26	12/01
20	11/05	11/13	11/18	11/23	11/27	11/30	12/03	12/08	12/14
16	11/19	11/27	12/01	12/04	12/07	12/11	12/15	12/20	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	181	175	170	165	161	156	150	143
32	212	205	199	194	190	185	180	174	165
28	236	228	222	217	213	208	203	197	189
24	262	253	247	241	236	231	225	219	210
20	288	279	272	267	261	256	250	243	234
16	312	303	296	290	285	279	274	267	258

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MARSHALL, MO US**

GHCND:USW00013991
 Elev: 790 ft. Lat: 39.134° N Lon: 93.222° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	5/01	4/29	4/26	4/23	4/20	4/17	4/13	4/08
32	4/27	4/23	4/19	4/16	4/12	4/09	4/07	4/03	3/30
28	4/18	4/13	4/09	4/06	4/03	4/01	3/29	3/23	3/18
24	4/10	4/04	4/01	3/28	3/24	3/20	3/16	3/12	3/06
20	3/31	3/25	3/20	3/16	3/13	3/09	3/05	3/01	2/24
16	3/20	3/14	3/10	3/06	3/03	2/28	2/24	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/28	10/01	10/05	10/08	10/11	10/15	10/19	10/24
32	10/03	10/10	10/14	10/18	10/21	10/24	10/27	10/31	11/04
28	10/15	10/21	10/26	10/30	11/01	11/04	11/07	11/11	11/17
24	10/29	11/02	11/05	11/09	11/12	11/16	11/19	11/24	11/29
20	11/06	11/11	11/15	11/19	11/23	11/27	12/01	12/04	12/10
16	11/13	11/21	11/26	11/29	12/02	12/05	12/09	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	182	177	172	168	164	159	154	147
32	212	204	199	194	190	185	181	175	167
28	233	226	220	215	211	207	202	197	189
24	257	248	243	238	233	228	223	217	209
20	280	271	264	259	254	249	244	239	231
16	300	291	285	279	274	269	263	257	249

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **APPLETON CITY, MO US**

GHCND:USC00230204
 Elev: 852 ft. Lat: 38.187° N Lon: 94.028° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/01	4/29	4/25	4/23	4/20	4/16	4/13	4/08
32	4/28	4/22	4/19	4/15	4/12	4/09	4/06	4/02	3/29
28	4/16	4/11	4/08	4/05	4/02	3/31	3/26	3/22	3/16
24	4/08	4/02	3/30	3/26	3/22	3/18	3/14	3/09	3/03
20	3/31	3/23	3/18	3/15	3/10	3/07	3/03	2/28	2/22
16	3/19	3/13	3/08	3/04	3/01	2/26	2/21	2/16	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/25	10/01	10/05	10/08	10/12	10/15	10/19	10/22	10/28
32	10/05	10/12	10/17	10/20	10/23	10/27	10/30	11/02	11/07
28	10/16	10/23	10/28	11/01	11/03	11/06	11/09	11/13	11/19
24	10/29	11/02	11/06	11/10	11/13	11/17	11/21	11/25	12/01
20	11/06	11/12	11/17	11/21	11/25	11/29	12/01	12/05	12/11
16	11/15	11/22	11/27	11/30	12/03	12/06	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	186	181	176	172	168	163	157	150
32	214	207	202	197	193	189	184	178	170
28	237	229	223	218	214	210	205	199	191
24	260	252	246	240	236	230	225	219	210
20	283	275	268	263	258	253	247	241	231
16	303	294	288	283	278	273	267	261	252

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ELDON, MO US**

GHCND:USC00232503
 Elev: 930 ft. Lat: 38.349° N Lon: 92.581° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	4/30	4/26	4/22	4/19	4/16	4/12	4/09	4/04
32	4/28	4/21	4/16	4/12	4/09	4/06	4/03	3/31	3/24
28	4/17	4/10	4/06	4/03	3/31	3/28	3/23	3/19	3/13
24	4/07	4/01	3/28	3/23	3/19	3/16	3/12	3/07	3/01
20	3/30	3/22	3/17	3/13	3/09	3/05	3/02	2/26	2/19
16	3/19	3/12	3/07	3/04	3/01	2/25	2/20	2/15	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/03	10/09	10/13	10/16	10/19	10/22	10/24	10/27	10/31
32	10/13	10/20	10/23	10/27	10/30	11/01	11/04	11/08	11/14
28	10/23	10/30	11/02	11/05	11/08	11/12	11/16	11/21	11/27
24	11/02	11/07	11/12	11/16	11/20	11/24	11/28	12/01	12/07
20	11/10	11/18	11/23	11/27	11/30	12/02	12/06	12/11	12/17
16	11/20	11/27	12/01	12/04	12/07	12/11	12/16	12/20	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	202	195	190	185	181	177	172	166	156
32	225	217	211	206	201	197	192	185	176
28	248	239	233	228	223	218	212	206	197
24	270	261	255	250	245	240	234	228	219
20	290	281	275	269	264	259	253	247	238
16	309	300	294	288	282	277	272	265	256

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MALDEN MUNICIPAL AIRPORT, MO US**

GHCND:USC00235207
 Elev: 290 ft. Lat: 36.599° N Lon: 89.989° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/21	4/17	4/14	4/11	4/08	4/06	4/03	3/31	3/26
32	4/12	4/08	4/05	4/02	3/31	3/28	3/24	3/21	3/16
28	4/04	3/31	3/26	3/23	3/19	3/16	3/13	3/08	3/03
24	3/24	3/19	3/14	3/10	3/06	3/03	2/28	2/24	2/17
20	3/15	3/07	3/02	2/28	2/24	2/20	2/15	2/09	2/02
16	3/04	2/26	2/20	2/16	2/11	2/07	2/03	1/30	1/19
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/06	10/12	10/15	10/19	10/21	10/24	10/27	10/31	11/05
32	10/16	10/21	10/25	10/29	11/01	11/04	11/07	11/11	11/17
28	10/25	11/01	11/05	11/09	11/13	11/16	11/21	11/27	12/02
24	11/04	11/11	11/17	11/22	11/27	12/01	12/04	12/09	12/17
20	11/18	11/27	12/01	12/05	12/09	12/14	12/20	12/25	1/01
16	12/01	12/07	12/12	12/18	12/23	12/27	1/01	1/07	1/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	215	208	203	199	195	192	188	183	176
32	237	229	224	219	215	211	206	201	194
28	263	254	248	242	237	232	227	221	213
24	291	281	274	268	263	257	252	244	235
20	318	308	301	295	289	284	277	270	260
16	340	330	324	318	312	306	300	293	282

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MARBLE HILL, MO US**

GHCND:USC00235253
 Elev: 390 ft. Lat: 37.304° N Lon: 89.966° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/12	5/07	5/03	4/30	4/28	4/25	4/22	4/18	4/13
32	5/01	4/26	4/23	4/19	4/16	4/13	4/10	4/06	3/31
28	4/20	4/15	4/12	4/08	4/05	4/02	3/30	3/26	3/21
24	4/11	4/06	4/02	3/30	3/26	3/22	3/18	3/15	3/09
20	4/02	3/26	3/22	3/17	3/14	3/10	3/06	3/02	2/24
16	3/20	3/14	3/09	3/04	3/01	2/26	2/22	2/17	2/09
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/01	10/04	10/07	10/10	10/13	10/16	10/21
32	10/02	10/06	10/11	10/14	10/17	10/20	10/23	10/27	11/01
28	10/11	10/18	10/22	10/25	10/29	11/01	11/04	11/07	11/13
24	10/23	10/30	11/02	11/06	11/09	11/13	11/17	11/22	11/28
20	11/02	11/09	11/15	11/19	11/23	11/27	12/01	12/04	12/10
16	11/14	11/23	11/28	12/01	12/05	12/08	12/12	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	174	170	165	161	157	153	148	141
32	205	197	192	188	183	179	175	169	162
28	229	221	215	211	206	202	197	192	184
24	254	245	239	234	229	224	219	212	204
20	279	270	264	258	253	248	242	236	227
16	305	296	289	284	278	273	267	261	251

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **LEES SUMMIT REED WLR, MO US**

GHCND:USC00234850
 Elev: 1000 ft. Lat: 38.880° N Lon: 94.336° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/06	5/01	4/28	4/26	4/23	4/20	4/17	4/13	4/08
32	4/26	4/22	4/18	4/15	4/12	4/09	4/07	4/03	3/31
28	4/17	4/12	4/09	4/06	4/03	4/01	3/29	3/24	3/19
24	4/09	4/04	4/01	3/29	3/25	3/21	3/17	3/13	3/08
20	3/31	3/26	3/21	3/17	3/14	3/11	3/07	3/02	2/25
16	3/21	3/15	3/11	3/08	3/04	3/01	2/26	2/21	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/04	10/08	10/11	10/14	10/18	10/21	10/26
32	10/05	10/11	10/15	10/19	10/22	10/25	10/28	11/01	11/05
28	10/16	10/22	10/26	10/30	11/02	11/05	11/08	11/13	11/18
24	10/28	11/02	11/05	11/09	11/12	11/15	11/19	11/24	11/29
20	11/04	11/10	11/15	11/19	11/23	11/27	11/30	12/03	12/09
16	11/11	11/20	11/25	11/29	12/01	12/04	12/08	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	183	178	173	169	165	160	155	148
32	211	204	199	195	191	186	182	176	169
28	234	226	220	216	211	207	202	197	189
24	256	248	242	237	232	228	223	217	209
20	277	269	263	258	253	248	243	237	229
16	298	289	282	277	272	267	262	255	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **TRENTON, MO US**

GHCND:USC00238444
 Elev: 837 ft. Lat: 40.082° N Lon: 93.609° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/02	4/30	4/29	4/26	4/24	4/21	4/15
32	5/01	4/28	4/25	4/23	4/20	4/17	4/13	4/09	4/04
28	4/24	4/20	4/16	4/13	4/10	4/07	4/04	3/31	3/26
24	4/16	4/11	4/07	4/04	4/01	3/30	3/25	3/21	3/15
20	4/08	4/02	3/29	3/25	3/21	3/18	3/14	3/10	3/04
16	3/29	3/23	3/19	3/15	3/11	3/07	3/04	3/01	2/21
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/20	9/25	9/28	10/01	10/04	10/07	10/11	10/14	10/19
32	9/30	10/05	10/10	10/13	10/16	10/20	10/23	10/26	10/30
28	10/11	10/17	10/22	10/25	10/28	10/31	11/02	11/06	11/11
24	10/21	10/28	11/01	11/03	11/06	11/09	11/13	11/16	11/22
20	10/29	11/04	11/08	11/12	11/16	11/19	11/23	11/28	12/03
16	11/06	11/14	11/19	11/23	11/27	11/30	12/03	12/07	12/13
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	166	162	158	154	150	145	138
32	200	193	188	183	179	175	171	166	159
28	221	213	208	204	200	196	191	186	179
24	241	233	228	223	218	214	209	203	196
20	263	255	248	243	238	233	228	222	213
16	285	276	269	264	259	254	248	242	233

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SPICKARD 7 W, MO US**

GHCND:USC00237963
 Elev: 875 ft. Lat: 40.247° N Lon: 93.716° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/12	5/07	5/03	5/01	4/29	4/26	4/23	4/19	4/14
32	5/02	4/27	4/24	4/21	4/18	4/15	4/12	4/08	4/03
28	4/22	4/17	4/13	4/11	4/08	4/05	4/03	3/31	3/26
24	4/14	4/09	4/05	4/03	3/31	3/29	3/25	3/21	3/16
20	4/05	4/01	3/28	3/25	3/21	3/18	3/14	3/10	3/04
16	3/28	3/23	3/18	3/15	3/11	3/08	3/05	3/01	2/23
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/18	9/23	9/26	9/29	10/01	10/05	10/08	10/12	10/17
32	9/28	10/02	10/06	10/10	10/13	10/16	10/20	10/24	10/28
28	10/09	10/15	10/20	10/23	10/26	10/29	11/01	11/04	11/10
24	10/20	10/26	10/31	11/02	11/05	11/08	11/11	11/16	11/22
20	11/01	11/04	11/08	11/11	11/15	11/19	11/23	11/28	12/02
16	11/07	11/13	11/18	11/22	11/26	11/29	12/02	12/06	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	176	169	163	159	155	151	146	141	135
32	199	191	186	181	177	173	168	163	155
28	219	212	207	203	199	195	190	185	178
24	241	233	227	222	218	214	209	204	196
20	262	254	248	243	239	234	229	224	216
16	282	274	268	263	258	254	249	243	236

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **DIAMOND 2 W, MO US**

GHCND:USC00232240
 Elev: 1070 ft. Lat: 36.986° N Lon: 94.355° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/05	5/02	4/30	4/27	4/25	4/22	4/18	4/13
32	5/01	4/27	4/24	4/21	4/18	4/15	4/12	4/08	4/02
28	4/22	4/17	4/13	4/10	4/07	4/04	4/01	3/27	3/21
24	4/12	4/07	4/04	4/01	3/28	3/24	3/19	3/15	3/08
20	4/04	3/29	3/23	3/18	3/14	3/09	3/04	2/28	2/21
16	3/21	3/14	3/08	3/04	2/28	2/24	2/20	2/14	2/05
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/03	10/06	10/09	10/12	10/15	10/19	10/23
32	10/03	10/09	10/13	10/17	10/20	10/23	10/26	10/29	11/03
28	10/14	10/20	10/24	10/28	10/31	11/02	11/06	11/10	11/16
24	10/24	10/31	11/03	11/06	11/10	11/14	11/18	11/22	11/29
20	11/02	11/08	11/13	11/18	11/22	11/26	11/30	12/04	12/09
16	11/12	11/21	11/26	11/30	12/03	12/06	12/10	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	172	168	164	160	156	151	144
32	207	199	193	189	184	180	176	170	163
28	228	221	215	210	206	201	197	191	183
24	253	244	237	232	227	222	217	211	203
20	279	270	263	257	251	245	239	232	223
16	305	295	288	282	276	271	264	257	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **CAPE GIRARDEAU MUNICIPAL AIRPORT, MO US**

GHCND:USW00003935
 Elev: 336 ft. Lat: 37.225° N Lon: 89.570° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/29	4/26	4/23	4/20	4/17	4/14	4/10	4/05
32	4/24	4/20	4/16	4/13	4/10	4/06	4/03	3/31	3/24
28	4/16	4/11	4/06	4/03	3/31	3/27	3/23	3/18	3/13
24	4/06	4/01	3/27	3/22	3/18	3/14	3/10	3/06	2/28
20	3/26	3/18	3/13	3/08	3/05	3/01	2/26	2/21	2/13
16	3/14	3/05	3/01	2/26	2/21	2/17	2/12	2/06	1/31
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/28	10/01	10/05	10/07	10/10	10/13	10/16	10/20	10/24
32	10/06	10/11	10/15	10/18	10/21	10/24	10/27	11/01	11/05
28	10/16	10/22	10/26	10/29	11/01	11/04	11/08	11/12	11/19
24	10/28	11/02	11/06	11/11	11/15	11/19	11/24	11/30	12/05
20	11/06	11/15	11/21	11/27	12/01	12/04	12/08	12/13	12/20
16	11/21	11/30	12/03	12/07	12/12	12/16	12/21	12/26	1/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	187	181	177	173	169	165	160	154
32	216	208	203	199	194	190	186	181	174
28	240	231	225	220	216	211	206	200	193
24	268	259	252	246	241	236	230	223	214
20	296	287	280	274	269	263	256	249	239
16	322	312	305	299	293	287	281	274	263

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BOONVILLE, MO US**

GHCND:USC00230817
 Elev: 744 ft. Lat: 38.971° N Lon: 92.760° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/01	4/28	4/24	4/21	4/18	4/15	4/12	4/09	4/03
32	4/21	4/17	4/13	4/10	4/08	4/05	4/02	3/31	3/24
28	4/13	4/08	4/05	4/02	3/31	3/26	3/22	3/18	3/12
24	4/05	3/31	3/26	3/22	3/18	3/14	3/11	3/07	3/02
20	3/26	3/19	3/15	3/11	3/08	3/04	3/01	2/26	2/19
16	3/16	3/10	3/06	3/02	2/28	2/24	2/20	2/15	2/08
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/30	10/04	10/08	10/12	10/15	10/18	10/21	10/24	10/28
32	10/11	10/17	10/21	10/24	10/27	10/30	11/01	11/05	11/10
28	10/22	10/29	11/01	11/03	11/06	11/10	11/13	11/17	11/23
24	11/02	11/07	11/11	11/15	11/18	11/21	11/25	11/30	12/04
20	11/10	11/16	11/21	11/25	11/28	12/01	12/04	12/08	12/14
16	11/20	11/26	11/30	12/03	12/06	12/09	12/13	12/18	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	192	187	182	178	174	170	165	157
32	221	214	209	205	201	197	192	187	179
28	244	237	231	227	222	218	213	208	200
24	267	259	253	248	244	239	234	229	221
20	288	280	274	269	264	259	255	249	241
16	307	298	292	287	282	278	273	267	259

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: **POPLAR BLUFF, MO US**

GHCND:USC00236791
Elev: 370 ft. Lat: 36.758° N Lon: 90.406° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	4/25	4/20	4/17	4/14	4/11	4/08	4/05	4/01	3/27
32	4/14	4/10	4/06	4/03	3/31	3/29	3/25	3/21	3/16
28	4/04	3/31	3/26	3/22	3/19	3/15	3/12	3/07	3/02
24	3/24	3/19	3/14	3/10	3/06	3/03	2/28	2/24	2/16
20	3/16	3/08	3/03	2/28	2/24	2/19	2/15	2/10	2/03
16	3/04	2/26	2/20	2/16	2/11	2/07	2/03	1/31	1/22
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/06	10/12	10/16	10/20	10/23	10/26	10/29	11/01	11/06
32	10/16	10/22	10/27	10/31	11/02	11/05	11/09	11/13	11/19
28	10/26	11/02	11/06	11/10	11/14	11/18	11/23	11/28	12/03
24	11/05	11/13	11/18	11/24	11/29	12/01	12/05	12/09	12/16
20	11/17	11/27	12/01	12/05	12/09	12/13	12/17	12/22	12/28
16	12/01	12/06	12/11	12/15	12/20	12/24	12/28	1/01	1/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	215	208	202	198	194	189	184	179	172
32	238	230	225	220	216	211	207	201	193
28	265	256	250	244	239	235	229	223	214
24	290	281	275	270	264	259	253	247	237
20	314	305	298	293	287	281	276	268	259
16	334	326	319	314	308	303	297	290	280

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MARYVILLE 2 E, MO US**

GHCND:USC00235340
 Elev: 985 ft. Lat: 40.346° N Lon: 94.834° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/06	5/03	4/30	4/29	4/26	4/24	4/20	4/17
32	5/01	4/28	4/25	4/22	4/19	4/17	4/14	4/10	4/05
28	4/23	4/18	4/15	4/12	4/09	4/06	4/04	4/01	3/26
24	4/14	4/10	4/06	4/04	4/01	3/30	3/25	3/21	3/15
20	4/07	4/02	3/29	3/25	3/21	3/17	3/14	3/09	3/03
16	3/29	3/22	3/18	3/14	3/11	3/07	3/03	2/28	2/21
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/23	9/27	9/29	10/01	10/04	10/07	10/10	10/16
32	9/27	10/01	10/05	10/09	10/12	10/15	10/19	10/23	10/27
28	10/07	10/13	10/17	10/21	10/24	10/27	10/31	11/03	11/08
24	10/18	10/25	10/30	11/01	11/04	11/07	11/10	11/15	11/21
20	11/01	11/04	11/08	11/12	11/15	11/18	11/22	11/27	12/02
16	11/08	11/14	11/18	11/22	11/26	11/29	12/02	12/06	12/13
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	174	167	163	159	155	152	148	144	137
32	196	189	184	179	176	171	167	162	155
28	218	211	206	202	197	193	189	184	177
24	240	232	227	222	217	213	209	203	196
20	263	255	249	244	239	234	229	223	215
16	284	275	269	264	259	254	249	243	235

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BUTLER 4 W, MO US**

GHCND:USC00231145
 Elev: 790 ft. Lat: 38.261° N Lon: 94.405° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/03	4/30	4/28	4/26	4/24	4/21	4/17	4/12
32	4/30	4/26	4/23	4/20	4/17	4/14	4/11	4/07	4/01
28	4/22	4/17	4/13	4/10	4/07	4/04	4/01	3/28	3/22
24	4/13	4/08	4/04	4/01	3/30	3/26	3/21	3/16	3/10
20	4/05	3/31	3/26	3/22	3/17	3/13	3/09	3/05	2/28
16	3/25	3/19	3/15	3/11	3/07	3/03	2/28	2/23	2/16
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/22	9/28	10/01	10/05	10/08	10/11	10/15	10/19	10/24
32	9/30	10/06	10/11	10/15	10/19	10/22	10/26	10/30	11/03
28	10/10	10/17	10/22	10/26	10/30	11/01	11/04	11/07	11/13
24	10/22	10/30	11/01	11/04	11/07	11/11	11/15	11/19	11/25
20	11/02	11/07	11/11	11/15	11/19	11/23	11/27	12/01	12/06
16	11/09	11/17	11/22	11/27	11/30	12/03	12/06	12/11	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	185	177	172	167	163	159	154	149	142
32	206	198	192	187	183	178	174	168	160
28	226	218	213	208	204	199	194	189	180
24	247	239	233	228	223	218	213	208	199
20	272	262	255	250	245	239	234	227	219
16	294	285	278	273	267	262	256	250	241

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **ROLLA UNI OF MISSOURI, MO US**

GHCND:USC00237263
 Elev: 1167 ft. Lat: 37.957° N Lon: 91.776° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/30	4/26	4/22	4/20	4/16	4/13	4/09	4/04
32	4/24	4/19	4/15	4/12	4/09	4/06	4/03	3/31	3/25
28	4/16	4/10	4/06	4/02	3/31	3/28	3/24	3/20	3/15
24	4/05	3/31	3/27	3/23	3/20	3/17	3/13	3/08	3/03
20	3/28	3/21	3/17	3/13	3/09	3/05	3/02	2/27	2/19
16	3/18	3/11	3/06	3/03	2/28	2/25	2/20	2/14	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/05	10/09	10/13	10/16	10/20	10/23	10/26	10/31
32	10/11	10/17	10/21	10/24	10/28	10/31	11/02	11/06	11/11
28	10/21	10/27	11/01	11/03	11/06	11/10	11/13	11/18	11/25
24	11/01	11/05	11/09	11/14	11/17	11/21	11/26	12/01	12/05
20	11/08	11/16	11/21	11/25	11/29	12/01	12/05	12/10	12/16
16	11/20	11/27	12/01	12/04	12/07	12/11	12/16	12/20	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	200	193	187	183	179	174	169	164	157
32	222	215	209	205	201	197	192	187	180
28	244	236	230	225	220	216	211	206	198
24	265	257	251	246	241	236	231	225	216
20	288	279	273	268	263	258	252	246	237
16	309	300	293	288	282	277	272	266	257

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: **SEDALIA WATER PLANT, MO US**

GHCND:USC00237632
Elev: 780 ft. Lat: 38.675° N Lon: 93.223° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/14	5/08	5/04	5/01	4/29	4/26	4/23	4/19	4/14
32	5/04	4/29	4/25	4/22	4/19	4/15	4/12	4/07	4/02
28	4/24	4/18	4/14	4/11	4/07	4/04	4/01	3/28	3/21
24	4/13	4/08	4/03	3/31	3/27	3/23	3/19	3/15	3/09
20	4/02	3/28	3/23	3/18	3/15	3/11	3/07	3/03	2/26
16	3/21	3/15	3/11	3/07	3/03	2/28	2/25	2/19	2/11
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/26	9/29	10/02	10/05	10/08	10/12	10/16	10/21
32	9/30	10/05	10/09	10/13	10/17	10/20	10/24	10/27	11/01
28	10/11	10/17	10/21	10/25	10/29	11/01	11/03	11/07	11/12
24	10/22	10/29	11/01	11/04	11/07	11/10	11/14	11/18	11/25
20	11/02	11/07	11/11	11/15	11/19	11/24	11/28	12/01	12/07
16	11/11	11/19	11/25	11/29	12/01	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	172	167	162	158	154	149	144	136
32	203	194	189	184	179	175	170	164	156
28	225	217	212	207	202	198	193	187	179
24	249	241	235	229	224	220	215	209	201
20	276	266	260	254	249	243	238	231	222
16	299	290	283	278	273	268	262	255	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **FREDERICKTOWN, MO US**

GHCND:USC00233038
 Elev: 719 ft. Lat: 37.574° N Lon: 90.309° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/16	5/10	5/06	5/04	5/01	4/29	4/26	4/23	4/19
32	5/04	4/30	4/27	4/24	4/21	4/19	4/16	4/12	4/07
28	4/24	4/20	4/16	4/13	4/10	4/07	4/04	3/31	3/26
24	4/15	4/10	4/06	4/02	3/31	3/27	3/23	3/18	3/13
20	4/05	3/30	3/25	3/21	3/17	3/14	3/10	3/05	2/28
16	3/24	3/17	3/13	3/08	3/04	3/01	2/26	2/22	2/14
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/27	9/30	10/02	10/05	10/07	10/11	10/16
32	9/27	10/01	10/05	10/08	10/11	10/14	10/18	10/22	10/28
28	10/04	10/11	10/15	10/19	10/23	10/26	10/31	11/03	11/08
24	10/16	10/23	10/28	11/01	11/04	11/07	11/11	11/16	11/24
20	10/27	11/03	11/08	11/13	11/17	11/23	11/28	12/02	12/07
16	11/07	11/17	11/24	11/29	12/01	12/05	12/09	12/14	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	172	165	160	156	152	149	144	139	132
32	194	186	181	176	172	168	163	158	152
28	217	210	204	199	195	190	185	179	172
24	243	235	228	223	218	213	208	202	193
20	270	261	255	249	243	238	232	225	215
16	297	287	281	275	270	264	258	251	241

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MOUNTAIN GROVE 2 N, MO US**

GHCND:USC00235834
 Elev: 1450 ft. Lat: 37.154° N Lon: 92.262° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/10	5/04	5/01	4/28	4/25	4/22	4/18	4/14	4/08
32	4/30	4/25	4/20	4/16	4/13	4/10	4/06	4/02	3/29
28	4/18	4/12	4/09	4/05	4/02	3/31	3/27	3/23	3/17
24	4/09	4/03	3/31	3/27	3/23	3/20	3/16	3/12	3/05
20	4/01	3/25	3/20	3/16	3/12	3/07	3/03	2/28	2/20
16	3/20	3/13	3/07	3/03	2/28	2/25	2/19	2/14	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/03	10/06	10/09	10/13	10/16	10/20	10/26
32	10/03	10/10	10/14	10/18	10/21	10/25	10/28	11/01	11/07
28	10/15	10/21	10/26	10/30	11/01	11/05	11/08	11/13	11/20
24	10/26	11/01	11/05	11/08	11/12	11/16	11/20	11/25	12/01
20	11/04	11/10	11/16	11/20	11/24	11/28	12/01	12/05	12/12
16	11/14	11/22	11/28	12/01	12/04	12/08	12/12	12/17	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	181	176	171	166	162	157	151	144
32	213	205	199	194	190	185	180	174	166
28	235	227	221	216	212	207	202	196	189
24	259	250	244	238	233	228	223	217	209
20	284	274	267	261	256	251	245	238	228
16	306	297	290	284	279	273	267	260	251

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: VICHY ROLLA NATIONAL AIRPORT, MO US

GHCND:USW00013997
 Elev: 1127 ft. Lat: 38.131° N Lon: 91.768° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/11	5/05	5/01	4/29	4/26	4/23	4/19	4/15	4/09
32	4/30	4/25	4/21	4/17	4/14	4/11	4/07	4/03	3/29
28	4/19	4/14	4/10	4/06	4/03	3/31	3/28	3/23	3/18
24	4/10	4/05	3/31	3/28	3/23	3/19	3/16	3/12	3/06
20	3/31	3/24	3/20	3/16	3/12	3/09	3/05	3/01	2/23
16	3/20	3/14	3/09	3/05	3/01	2/27	2/22	2/17	2/10
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/26	10/01	10/04	10/07	10/10	10/14	10/17	10/20	10/25
32	10/05	10/11	10/16	10/19	10/22	10/25	10/28	10/31	11/05
28	10/18	10/23	10/26	10/30	11/01	11/04	11/07	11/11	11/16
24	10/28	11/01	11/05	11/08	11/11	11/14	11/18	11/23	11/28
20	11/05	11/10	11/14	11/18	11/22	11/26	11/30	12/03	12/10
16	11/11	11/19	11/25	11/29	12/01	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	181	176	171	167	162	157	152	144
32	212	204	199	194	190	185	181	175	167
28	234	226	221	216	212	208	203	197	190
24	256	248	242	237	233	228	223	217	209
20	279	271	265	260	254	249	244	238	229
16	301	292	286	280	275	270	265	258	248

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **LICKING 4 N, MO US**

GHCND:USC00234919
 Elev: 1180 ft. Lat: 37.554° N Lon: 91.883° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/18	5/12	5/08	5/05	5/02	4/30	4/27	4/23	4/17
32	5/07	5/03	4/30	4/26	4/23	4/19	4/16	4/11	4/04
28	4/27	4/21	4/17	4/13	4/10	4/06	4/02	3/30	3/24
24	4/14	4/09	4/05	4/01	3/30	3/26	3/22	3/18	3/12
20	4/06	3/31	3/26	3/22	3/18	3/14	3/10	3/05	2/28
16	3/27	3/19	3/14	3/10	3/06	3/02	2/27	2/22	2/15
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/24	9/28	10/01	10/03	10/06	10/09	10/12	10/18
32	9/28	10/03	10/07	10/11	10/14	10/18	10/21	10/25	10/30
28	10/08	10/15	10/19	10/23	10/26	10/29	11/01	11/05	11/11
24	10/19	10/25	10/30	11/02	11/05	11/09	11/13	11/18	11/24
20	10/31	11/05	11/09	11/14	11/18	11/23	11/27	12/01	12/06
16	11/10	11/18	11/23	11/28	12/01	12/04	12/08	12/13	12/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	166	160	156	152	148	143	138	131
32	197	189	183	178	173	169	164	158	151
28	221	214	208	203	198	193	187	182	174
24	245	237	230	225	220	216	211	204	196
20	270	261	254	249	244	238	233	226	217
16	295	286	279	273	268	262	257	250	240

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **SALISBURY, MO US**

GHCND:USC00237514
 Elev: 730 ft. Lat: 39.425° N Lon: 92.811° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/04	5/01	4/29	4/26	4/23	4/20	4/17	4/11
32	4/30	4/26	4/22	4/19	4/16	4/13	4/09	4/05	3/31
28	4/20	4/15	4/11	4/08	4/05	4/02	3/31	3/26	3/20
24	4/10	4/05	4/02	3/30	3/26	3/23	3/19	3/14	3/08
20	4/01	3/27	3/22	3/18	3/14	3/10	3/06	3/02	2/26
16	3/20	3/15	3/10	3/06	3/03	3/01	2/26	2/20	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/21	9/26	9/29	10/02	10/05	10/08	10/12	10/15	10/20
32	9/30	10/05	10/10	10/14	10/17	10/21	10/24	10/28	11/01
28	10/11	10/18	10/23	10/26	10/30	11/01	11/04	11/08	11/14
24	10/24	11/01	11/03	11/06	11/10	11/14	11/17	11/23	11/29
20	11/05	11/10	11/15	11/18	11/23	11/27	12/01	12/04	12/10
16	11/13	11/20	11/26	11/29	12/02	12/05	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	175	170	166	162	157	153	148	140
32	206	198	193	188	184	179	174	168	161
28	228	221	215	211	206	202	197	191	183
24	253	244	238	233	228	223	219	213	205
20	277	268	262	256	251	246	241	235	226
16	297	289	282	277	272	267	261	255	247

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **BOWLING GREEN 2 NE, MO US**

GHCND:USC00230856
 Elev: 887 ft. Lat: 39.345° N Lon: 91.171° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/18	5/12	5/07	5/04	5/01	4/28	4/25	4/22	4/16
32	5/05	4/30	4/26	4/23	4/20	4/17	4/14	4/10	4/05
28	4/24	4/19	4/15	4/12	4/09	4/06	4/03	3/31	3/26
24	4/15	4/09	4/06	4/03	3/31	3/28	3/25	3/20	3/15
20	4/06	3/31	3/28	3/24	3/21	3/17	3/14	3/10	3/04
16	3/27	3/21	3/17	3/14	3/10	3/07	3/03	2/28	2/20
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/23	9/26	9/30	10/02	10/05	10/08	10/12	10/17
32	9/26	10/01	10/04	10/08	10/12	10/15	10/19	10/23	10/28
28	10/05	10/12	10/17	10/22	10/26	10/29	11/01	11/05	11/12
24	10/23	10/31	11/03	11/06	11/10	11/14	11/18	11/22	11/28
20	11/05	11/11	11/15	11/19	11/23	11/27	11/30	12/03	12/10
16	11/14	11/22	11/27	11/30	12/02	12/06	12/09	12/14	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	165	160	156	151	147	143	137	130
32	196	188	182	177	173	168	163	158	151
28	221	213	208	203	198	193	188	183	174
24	246	238	233	228	223	219	213	207	199
20	269	261	255	250	245	241	235	230	222
16	291	282	276	271	266	261	256	250	242

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **STOCKTON DAM, MO US**

GHCND:USC00238082
 Elev: 873 ft. Lat: 37.697° N Lon: 93.772° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/05	4/30	4/27	4/24	4/22	4/18	4/15	4/12	4/07
32	4/25	4/20	4/17	4/14	4/11	4/08	4/05	4/02	3/28
28	4/16	4/11	4/07	4/04	4/01	3/30	3/26	3/22	3/16
24	4/06	4/01	3/28	3/25	3/21	3/17	3/14	3/10	3/04
20	3/26	3/21	3/16	3/13	3/09	3/06	3/02	2/27	2/19
16	3/18	3/12	3/07	3/03	2/28	2/24	2/19	2/13	2/06
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/23	9/29	10/03	10/07	10/11	10/15	10/18	10/22	10/26
32	10/01	10/09	10/15	10/19	10/23	10/26	10/29	11/02	11/07
28	10/14	10/22	10/27	10/31	11/03	11/06	11/10	11/15	11/21
24	10/29	11/02	11/07	11/11	11/15	11/19	11/23	11/28	12/04
20	11/05	11/14	11/19	11/24	11/28	12/01	12/04	12/09	12/15
16	11/16	11/25	11/30	12/03	12/07	12/11	12/15	12/19	12/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	193	185	180	175	171	166	161	155	147
32	215	208	202	197	193	188	183	177	168
28	239	231	225	220	215	211	206	200	191
24	264	256	249	244	239	234	228	222	213
20	288	279	272	267	262	257	252	245	237
16	309	300	293	287	282	276	271	264	255

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: COLUMBIA U OF M, MO US

GHCND:USC00231801
 Elev: 720 ft. Lat: 38.942° N Lon: 92.320° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/02	4/27	4/23	4/20	4/16	4/13	4/10	4/07	4/02
32	4/21	4/15	4/11	4/08	4/06	4/03	4/01	3/28	3/22
28	4/11	4/05	4/02	3/31	3/27	3/23	3/20	3/17	3/12
24	4/01	3/28	3/23	3/19	3/16	3/13	3/10	3/05	2/28
20	3/23	3/17	3/13	3/09	3/06	3/02	2/28	2/23	2/16
16	3/15	3/08	3/04	3/01	2/25	2/21	2/17	2/11	2/04
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/07	10/11	10/15	10/18	10/21	10/24	10/27	11/01
32	10/12	10/19	10/23	10/26	10/29	11/01	11/04	11/08	11/13
28	10/24	10/31	11/03	11/06	11/09	11/12	11/16	11/20	11/26
24	11/03	11/09	11/13	11/17	11/21	11/25	11/28	12/01	12/07
20	11/13	11/20	11/25	11/28	12/01	12/04	12/07	12/11	12/17
16	11/24	11/29	12/02	12/05	12/09	12/13	12/17	12/21	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	204	197	192	187	183	179	174	168	160
32	226	219	214	210	206	202	197	192	184
28	248	241	236	231	226	222	217	212	204
24	271	264	258	253	248	243	239	233	224
20	293	284	279	274	269	264	259	253	245
16	313	304	298	293	287	282	277	271	262

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

U.S. Department of Commerce
 National Oceanic & Atmospheric Administration
 National Environmental Satellite, Data, and Information
 Service

**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MARSHFIELD, MO US**

GHCND:USC00235307
 Elev: 1490 ft. Lat: 37.334° N Lon: 92.910° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/08	5/04	4/30	4/28	4/26	4/23	4/20	4/16	4/11
32	4/29	4/25	4/22	4/18	4/15	4/13	4/10	4/06	4/01
28	4/21	4/15	4/12	4/09	4/06	4/03	3/31	3/27	3/21
24	4/11	4/06	4/03	3/31	3/28	3/24	3/20	3/16	3/11
20	4/03	3/29	3/24	3/20	3/17	3/13	3/09	3/05	2/28
16	3/25	3/19	3/14	3/09	3/05	3/02	2/27	2/21	2/13
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/24	9/29	10/02	10/05	10/09	10/12	10/16	10/19	10/24
32	10/03	10/08	10/13	10/17	10/20	10/23	10/26	10/30	11/03
28	10/13	10/20	10/24	10/28	10/31	11/02	11/05	11/09	11/15
24	10/25	10/31	11/03	11/06	11/10	11/13	11/17	11/21	11/27
20	11/03	11/09	11/14	11/17	11/21	11/25	11/28	12/02	12/07
16	11/12	11/18	11/23	11/27	12/01	12/03	12/07	12/12	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	186	178	173	169	165	160	156	151	144
32	207	200	194	190	186	182	177	171	164
28	228	220	215	211	206	202	197	192	184
24	250	241	236	231	227	222	218	212	204
20	272	264	258	253	248	243	238	231	223
16	296	287	280	274	269	264	258	252	243

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

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 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: **MEMPHIS, MO US**

GHCND:USC00235492
 Elev: 770 ft. Lat: 40.458° N Lon: 92.182° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/18	5/12	5/07	5/05	5/02	4/30	4/27	4/24	4/20
32	5/06	5/02	4/29	4/26	4/23	4/20	4/17	4/14	4/09
28	4/27	4/22	4/18	4/15	4/12	4/10	4/07	4/04	3/31
24	4/18	4/13	4/09	4/06	4/04	4/01	3/29	3/24	3/18
20	4/09	4/04	4/01	3/29	3/25	3/21	3/18	3/13	3/08
16	3/30	3/25	3/20	3/17	3/13	3/10	3/07	3/03	2/28
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/18	9/22	9/25	9/28	10/01	10/04	10/06	10/10	10/14
32	9/26	10/01	10/05	10/08	10/11	10/14	10/17	10/21	10/25
28	10/06	10/13	10/17	10/20	10/23	10/25	10/28	10/31	11/04
24	10/19	10/24	10/28	10/31	11/01	11/04	11/07	11/11	11/16
20	10/30	11/02	11/05	11/08	11/11	11/15	11/18	11/22	11/28
16	11/05	11/10	11/14	11/18	11/22	11/26	11/29	12/03	12/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	168	161	157	153	149	145	141	136	129
32	190	182	177	173	169	165	161	155	148
28	211	204	199	195	191	187	182	177	170
24	232	224	219	215	211	207	203	198	191
20	253	246	240	235	231	227	222	217	210
16	275	267	262	257	252	248	243	237	230

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

-6666: parameter undefined; insufficient occurrences to compute value

-7777: a non-zero value that would round to zero

blank: missing or insufficient data

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**Summary of Annual Normals
 1981-2010**

National Climatic Data Center
 Federal Building
 151 Patton Avenue
 Asheville, North Carolina 28801
 www.ncdc.noaa.gov

Station: JACKSON, MO US

GHCND:USC00234226
 Elev: 440 ft. Lat: 37.378° N Lon: 89.668° W

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/03	4/30	4/26	4/23	4/20	4/17	4/14	4/11	4/06
32	4/23	4/19	4/16	4/13	4/10	4/07	4/04	3/31	3/27
28	4/15	4/10	4/07	4/03	4/01	3/29	3/25	3/22	3/17
24	4/05	3/31	3/27	3/24	3/20	3/17	3/14	3/10	3/05
20	3/24	3/20	3/15	3/12	3/09	3/05	3/02	2/27	2/21
16	3/17	3/09	3/05	3/01	2/27	2/23	2/19	2/14	2/07
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/30	10/04	10/07	10/10	10/13	10/16	10/19	10/22	10/27
32	10/08	10/14	10/18	10/21	10/24	10/27	10/30	11/02	11/06
28	10/17	10/23	10/28	11/01	11/03	11/05	11/09	11/13	11/19
24	10/28	11/02	11/06	11/09	11/14	11/17	11/22	11/28	12/03
20	11/06	11/13	11/18	11/23	11/28	12/01	12/04	12/09	12/16
16	11/17	11/26	12/01	12/04	12/08	12/12	12/16	12/21	12/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	188	183	178	174	170	166	161	155
32	216	209	204	200	196	192	187	182	175
28	238	230	225	220	216	212	207	202	194
24	262	254	248	243	238	233	228	222	214
20	286	278	272	267	262	257	251	245	237
16	310	301	295	289	284	279	273	267	258

* Probability of observing a temperature as cold or colder than the indicated threshold, later in the spring or earlier in the fall than the indicated date

-4444: year-round risk of frost-freeze

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