National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1917 ft. Lat: 34.8536° N Lon: -116.7858° W

Station: DAGGETT AIRPORT, CA US USW00023161

#### Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	RPORT, CA US USWO			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/09	04/01	03/26	03/21	03/16	03/10	03/04	02/27	02/18
32	03/17	03/08	03/02	02/25	02/20	02/15	02/09	02/03	01/27
28	02/26	02/17	02/10	02/04	01/31	01/25	01/18	01/09	12/31
24	02/11	02/02	01/27	01/18	01/10	01/04	12/31	12/25	12/15
20	02/04	01/26	01/16	01/10	01/05	01/01	12/29	12/25	12/15
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
T (F)				Probability of earlier d	late in fall (beginning A	Aug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/03	11/08	11/12	11/14	11/17	11/19	11/22	11/25	11/29
32	11/14	11/18	11/22	11/26	11/29	12/01	12/04	12/07	12/12
28	11/23	11/29	12/02	12/06	12/09	12/12	12/17	12/22	12/30
24	12/01	12/09	12/13	12/18	12/23	12/28	01/02	01/10	01/26
20	12/10	12/17	12/25	12/28	01/01	01/05	01/12	01/20	02/01
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Tames (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	273	264	257	251	245	240	234	228	219
32	308	299	291	285	280	274	268	261	251
28	345	336	328	321	314	307	300	293	282
24	365	365	365	357	350	343	335	328	316
20	365	365	365	365	365	365	365	361	346
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1746 ft. Lat: 42.2127° N Lon: -122.7144° W

Station: ASHLAND, OR US USC00350304

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

,	R US USC00350304			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later da	te in spring (through J	ul 31) than indicated(*			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/23	06/16	06/11	06/07	06/03	05/31	05/27	05/22	05/17
32	05/31	05/24	05/18	05/14	05/11	05/07	05/03	04/30	04/25
28	05/08	05/02	04/29	04/25	04/21	04/16	04/11	04/07	04/01
24	04/17	04/08	04/03	03/30	03/24	03/19	03/12	03/03	02/22
20	03/15	03/04	02/26	02/20	02/14	02/08	02/02	01/28	01/13
16	02/17	02/08	02/02	01/29	01/23	01/15	01/04	12/26	12/15
				Fall Freeze Da	tes (Month/Day)				
Town (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/06	09/11	09/14	09/17	09/20	09/23	09/25	09/29	10/03
32	09/19	09/25	09/29	10/01	10/04	10/07	10/11	10/15	10/20
28	10/07	10/13	10/17	10/21	10/24	10/27	10/31	11/03	11/11
24	10/23	10/30	11/02	11/06	11/11	11/15	11/22	12/01	12/08
20	11/06	11/14	11/22	11/30	12/05	12/10	12/16	12/26	01/07
16	11/27	12/06	12/12	12/17	12/24	12/31	01/06	01/17	01/31
				Freeze F	ree Period				
Tames (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	130	122	116	111	106	102	96	91	83
32	169	161	156	151	146	141	136	130	122
28	212	203	197	192	187	182	176	170	162
24	271	258	249	241	234	227	220	212	202
20	333	320	310	302	294	286	277	267	253
16	365	365	361	350	342	335	328	319	308

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: AIKEN 5 SE, SC US USC00380074

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 492 ft. Lat: 33.4925° N Lon: -81.6958° W

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/26	04/20	04/16	04/13	04/09	04/06	04/02	03/29	03/23
32	04/16	04/10	04/06	04/02	03/30	03/26	03/22	03/17	03/10
28	04/05	03/30	03/25	03/21	03/17	03/13	03/07	02/28	02/22
24	03/25	03/17	03/11	03/05	02/28	02/24	02/18	02/11	02/01
20	03/12	03/01	02/22	02/16	02/10	02/04	01/31	01/25	01/15
16	02/27	02/14	02/07	02/02	01/29	01/24	01/17	01/08	12/28
				Fall Freeze Da	tes (Month/Day)				
Tomp (E)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/09	10/15	10/19	10/23	10/25	10/28	10/31	11/03	11/09
32	10/18	10/24	10/29	11/01	11/03	11/07	11/11	11/16	11/24
28	10/31	11/04	11/09	11/14	11/18	11/22	11/28	12/02	12/08
24	11/11	11/19	11/24	11/30	12/02	12/05	12/09	12/15	12/25
20	11/26	12/02	12/05	12/10	12/15	12/21	12/28	01/03	01/13
16	12/05	12/12	12/18	12/25	12/30	01/03	01/09	01/19	01/31
				Freeze F	ree Period				
Town (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	221	213	207	203	198	194	189	183	176
32	247	237	230	225	220	215	210	204	195
28	277	266	259	252	247	241	235	228	219
24	308	298	290	283	276	270	262	255	245
20	339	329	320	313	306	300	292	284	272
16	365	357	347	340	334	328	321	311	300

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4663 ft. Lat: 40.1667° N Lon: -103.2167° W Station: AKPON WASHINGTON CO AIPPOPT CO US USW00024015 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

207

215

TING I ON CO AIRPOR	R1, CO 03 03W00024	J13	F	- Data				
					lul 31) than indicated/*	<b>)</b>		
.10	.20	.30	.40	.50	.60	.70	.80	.90
05/30	05/24	05/20	05/17	05/15	05/12	05/09	05/06	05/03
05/18	05/13	05/10	05/07	05/05	05/03	05/01	04/28	04/23
05/09	05/05	05/02	04/30	04/27	04/24	04/21	04/17	04/13
05/01	04/26	04/23	04/20	04/17	04/14	04/11	04/07	04/03
04/22	04/17	04/13	04/10	04/07	04/04	04/01	03/28	03/22
04/13	04/07	04/03	03/31	03/28	03/23	03/18	03/13	03/04
			Fall Freeze Da	tes (Month/Day)				
			Probability of earlier of	late in fall (beginning /	Aug 1) than indicated(*	)		
.10	.20	.30	.40	.50	.60	.70	.80	.90
09/15	09/19	09/23	09/25	09/28	09/30	10/02	10/05	10/09
09/22	09/27	09/30	10/02	10/05	10/08	10/11	10/14	10/18
09/28	10/03	10/07	10/11	10/14	10/17	10/20	10/22	10/26
10/06	10/14	10/19	10/21	10/24	10/27	10/30	11/01	11/06
10/19	10/24	10/29	11/01	11/03	11/06	11/09	11/13	11/18
10/29	4.4400						1	1 44/00
10/23	11/02	11/05	11/09	11/12	11/15	11/18	11/22	11/26
10/20	11/02	11/05	1	11/12 ree Period	11/15	11/18	11/22	11/26
10/23	11/02	11/05	Freeze F			11/18	11/22	11/26
.10	.20	.30	Freeze F	ree Period		.70	.80	.90
			Freeze F Probability of long	ree Period er than indicated freez	e free period (Days)			
.10	.20	.30	Freeze F Probability of long .40	ree Period er than indicated freez .50	e free period (Days)	.70	.80	.90
.10 151	.20 145	.30 141	Freeze F Probability of long .40 138	ree Period er than indicated freez .50 134	e free period (Days) .60 130	. <b>70</b> 127	.80 122	. <b>90</b> 115
.10 151 169	.20 145 164	.30 141 159	Freeze F Probability of long .40 138 155	ree Period er than indicated freez .50 134 152	e free period (Days) .60 130 148	. <b>70</b> 127 144	.80 122 140	.90 115 133
	.10 05/30 05/18 05/09 05/01 04/22 04/13  .10 09/15 09/22 09/28 10/06 10/19	.10 .20  05/30 05/24  05/18 05/13  05/09 05/05  05/01 04/26  04/22 04/17  04/13 04/07   .10 .20  09/15 09/19  09/22 09/27  09/28 10/03  10/06 10/14  10/19 10/24	.10         .20         .30           05/30         05/24         05/20           05/18         05/13         05/10           05/09         05/05         05/02           05/01         04/26         04/23           04/22         04/17         04/13           04/13         04/07         04/03             .10         .20         .30           09/15         09/19         09/23           09/22         09/27         09/30           09/28         10/03         10/07           10/06         10/14         10/19           10/19         10/24         10/29	Spring Freeze D   Spring Freeze D	Spring Freeze Dates (Month/Day)	Spring Freeze Dates (Month/Day)	Spring Freeze Dates (Month/Day)	Spring Freeze Dates (Month/Day)   Spring Freeze Dates (Month/Day)   Spring Freeze Dates (Month/Day)   Spring Freeze Dates (Month/Day)   Spring (through Jul 31) than indicated(*)   Spring Freeze Dates (Month/Day)   Spring (through Jul 31) than indicated(*)   Spring Freeze Dates (Month/Day)   Spring (through Jul 31) than indicated(*)   Spring Freeze Dates (Month/Day)   Spring F

230

225

220

235

240

247

256

blank: missing or insufficient data

16

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: ADVANCE 1 S, MO US USW00093825

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 360 ft. Lat: 37.0955° N Lon: -89.9161° W

	5, INIO 03 0344000936.			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/02	04/29	04/25	04/22	04/19	04/16	04/13	04/09	04/04
32	04/23	04/19	04/15	04/12	04/09	04/06	04/03	03/31	03/24
28	04/14	04/09	04/05	04/02	03/31	03/27	03/23	03/19	03/14
24	04/05	03/31	03/25	03/21	03/17	03/14	03/10	03/06	03/01
20	03/24	03/17	03/13	03/08	03/04	03/01	02/26	02/21	02/14
16	03/12	03/05	03/01	02/25	02/21	02/17	02/12	02/06	01/31
				Fall Freeze Da	tes (Month/Day)				
Town (E)				Probability of earlier of	late in fall (beginning A	ug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/27	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	01/03
				Freeze F	ree Period				
Town (E)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.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

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

National Environmental Satellite, Data, and Information Service Current Location: Elev: 420 ft. Lat: 37.0855° N Lon: -122.0797° W

Generated on 01/31/2019

Station: BEN LOMOND NUMBER 4, CA US USC00040673

	D NUMBER 4, CA US (			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/18	05/10	05/04	05/01	04/28	04/25	04/20	04/14	04/07
32	04/20	04/12	04/06	04/01	03/27	03/21	03/13	03/03	02/20
28	03/09	02/28	02/21	02/14	02/07	02/01	01/27	01/15	12/31
24	02/11	02/02	01/27	01/19	01/11	01/05	12/30	12/23	12/14
20	01/31	01/20	01/09	01/04	12/31	12/30	12/26	12/20	12/12
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
Танан (Г)			I	Probability of earlier d	late in fall (beginning A	Aug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/08	10/14	10/19	10/22	10/26	10/30	11/02	11/06	11/12
32	10/26	11/01	11/05	11/09	11/14	11/18	11/24	11/30	12/05
28	11/13	11/21	11/27	12/01	12/05	12/09	12/15	12/26	01/07
24	12/01	12/05	12/11	12/17	12/24	12/31	01/05	01/14	01/29
20	12/06	12/12	12/17	12/24	12/29	01/02	01/07	01/17	01/30
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Town (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	206	197	190	184	179	174	169	162	153
32	275	261	250	242	234	226	219	211	201
28	341	330	321	312	304	296	288	278	266
24	365	365	365	362	353	345	337	331	318
20	365	365	365	365	365	365	365	365	360
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Flev: 610 ft Lat: 35 3992° N Lon: -80 1994° W

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: ALBEMARLE, NC US USC00310090	
Odifient Education: Elev. 010 ft. Edit. 30.3332 TV Edit00.1334 VV	

				Freez	ze Data				
				Spring Freeze D	ates (Month/Day)				
Tamm (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/04	04/30	04/25	04/22	04/19	04/16	04/13	04/09	04/03
32	04/23	04/17	04/13	04/10	04/06	04/03	03/31	03/26	03/20
28	04/10	04/05	03/31	03/28	03/24	03/20	03/15	03/10	03/04
24	03/30	03/23	03/17	03/13	03/09	03/05	03/01	02/25	02/17
20	03/17	03/09	03/03	02/27	02/22	02/17	02/10	02/03	01/26
16	03/01	02/22	02/16	02/10	02/04	01/31	01/26	01/19	01/06
				Fall Freeze Da	tes (Month/Day)				
T (F)			ı	Probability of earlier of	late in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/07	10/12	10/16	10/19	10/22	10/25	10/28	11/01	11/05
32	10/17	10/23	10/26	10/29	11/01	11/04	11/07	11/11	11/17
28	10/28	11/02	11/05	11/08	11/12	11/16	11/20	11/27	12/03
24	11/07	11/13	11/18	11/23	11/28	12/01	12/05	12/10	12/19
20	11/20	11/28	12/02	12/06	12/10	12/15	12/22	12/30	01/07
16	12/04	12/10	12/15	12/21	12/28	01/01	01/07	01/16	01/27
				Freeze F	ree Period				
Town (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	206	199	193	189	184	180	176	170	163
32	231	223	217	212	208	203	198	192	184
28	260	250	244	238	233	228	223	217	209
24	291	280	273	267	261	255	250	243	234
20	324	312	305	298	291	285	279	271	261
16	356	342	334	328	321	314	308	300	290

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

anonal Environmental Gatolino, Bata, and miormation Corvios

Current Location: Elev: 312 ft. Lat: 42.7431° N Lon: -73.8092° W Station: ALBANY INTERNATIONAL AIRPORT. NY US USW00014735

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

		RT, NY US USWUUU147		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/27	05/21	05/18	05/14	05/11	05/08	05/05	05/02	04/28
32	05/13	05/08	05/04	05/01	04/28	04/26	04/23	04/20	04/16
28	04/29	04/24	04/21	04/18	04/15	04/13	04/09	04/06	04/03
24	04/17	04/12	04/08	04/06	04/03	04/02	03/31	03/28	03/22
20	04/06	04/03	04/01	03/30	03/27	03/24	03/21	03/18	03/13
16	03/31	03/28	03/24	03/21	03/19	03/16	03/13	03/10	03/06
				Fall Freeze Dat	tes (Month/Day)				
Tomn (E)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/20	09/24	09/27	09/29	10/01	10/03	10/05	10/07	10/12
32	09/30	10/02	10/05	10/07	10/10	10/12	10/15	10/18	10/23
28	10/07	10/12	10/15	10/18	10/21	10/24	10/28	11/01	11/05
24	10/19	10/25	10/29	11/01	11/04	11/07	11/10	11/14	11/20
20	11/02	11/07	11/11	11/15	11/18	11/21	11/24	11/28	12/02
16	11/15	11/21	11/24	11/28	12/01	12/02	12/05	12/09	12/15
				Freeze Fr	ree Period				
Tomn (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	158	153	148	145	141	137	133	129	122
32	183	176	171	167	163	160	156	151	144
28	209	201	196	192	188	184	180	175	168
24	233	226	221	217	213	209	205	200	193
20	255	248	244	239	236	232	227	222	215
16	274	268	263	259	255	251	248	243	236

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Summary of Annual Normals 1981-2010 Generated on 01/31/2019 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Current Location: Elev: 962 ft. Lat: 35.2761° N Lon: -116.0628° W

National Environmental Satellite, Data, and Information Service

Station: BAKER, CA US USC00040436

ation. BARER, CA O				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	03/31	03/21	03/14	03/08	03/03	02/27	02/23	02/18	02/12
32	03/07	02/28	02/22	02/18	02/14	02/10	02/05	02/01	01/25
28	02/20	02/11	02/06	02/02	01/29	01/24	01/18	01/11	01/01
24	02/05	01/30	01/22	01/14	01/09	01/05	12/31	12/27	12/20
20	01/23	01/10	01/06	01/02	12/31	12/29	12/25	12/21	12/16
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	tes (Month/Day)				
Town (E)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/03	11/08	11/12	11/15	11/18	11/21	11/23	11/27	12/01
32	11/14	11/19	11/23	11/27	11/30	12/02	12/04	12/08	12/12
28	11/25	11/30	12/04	12/07	12/10	12/13	12/17	12/23	12/30
24	12/05	12/10	12/14	12/19	12/23	12/27	01/01	01/05	01/17
20	12/12	12/16	12/21	12/24	12/27	12/29	01/01	01/05	01/15
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ree Period				
Town (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	282	275	269	264	259	253	247	240	229
32	311	303	297	292	287	282	277	271	262
28	344	335	328	321	316	310	304	297	288
24	365	365	359	353	347	342	335	329	317
20	365	365	365	365	365	365	362	356	347
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1230 ft. Lat: 43.6064° N Lon: -93.3019° W Station: ALREDT LEA 3 SE MN LISTISCO0210075

Summary of Annual Normals 1981-2010

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Generated on 01/31/2019

				Free	ze Data				
				Spring Freeze D	Dates (Month/Day)				
Town (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/21	05/16	05/12	05/09	05/07	05/04	05/02	04/29	04/25
32	05/11	05/06	05/03	04/30	04/28	04/25	04/22	04/18	04/12
28	05/01	04/26	04/23	04/20	04/17	04/14	04/10	04/07	04/03
24	04/21	04/17	04/13	04/10	04/07	04/05	04/03	03/31	03/25
20	04/14	04/09	04/06	04/04	04/01	03/30	03/26	03/21	03/17
16	04/08	04/03	03/31	03/28	03/25	03/21	03/18	03/14	03/10
				Fall Freeze Da	tes (Month/Day)				
T (F)				Probability of earlier of	date in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/17	09/21	09/23	09/25	09/28	09/30	10/01	10/05	10/08
32	09/24	09/28	10/01	10/03	10/05	10/08	10/11	10/14	10/18
28	10/02	10/06	10/10	10/13	10/15	10/18	10/21	10/25	10/30
24	10/11	10/16	10/20	10/23	10/26	10/29	11/01	11/04	11/10
20	10/20	10/26	10/31	11/01	11/05	11/08	11/11	11/15	11/20
16	11/01	11/04	11/08	11/11	11/15	11/18	11/21	11/25	11/30
				Freeze F	ree Period				
Tama (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	153	148	145	141	138	135	131	125
32	179	173	168	164	160	156	152	148	141
28	201	194	189	185	181	177	173	168	161
24	221	214	209	205	201	197	193	188	181
20	239	232	227	222	218	214	210	205	198
16	255	248	243	239	235	231	226	221	214

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

dional Environmental Satellite, Data, and information Service

Current Location: Elev: 880 ft. Lat: 41.0655° N Lon: -92.7866° W

Station: ALBIA 3 NNE. IA US USC00130112

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	ze Data				
				Spring Freeze D	Dates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/19	05/13	05/08	05/05	05/03	04/30	04/28	04/25	04/20
32	05/07	05/03	04/30	04/27	04/24	04/21	04/18	04/14	04/09
28	04/29	04/24	04/20	04/17	04/14	04/11	04/08	04/04	03/31
24	04/20	04/15	04/11	04/08	04/05	04/03	03/31	03/27	03/20
20	04/11	04/06	04/03	03/31	03/28	03/24	03/20	03/16	03/10
16	04/03	03/30	03/26	03/21	03/18	03/14	03/11	03/07	03/02
				Fall Freeze Da	tes (Month/Day)				
T (F)				Probability of earlier of	date in fall (beginning /	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/18	09/22	09/25	09/27	09/30	10/02	10/05	10/09	10/13
32	09/26	10/01	10/04	10/07	10/10	10/13	10/17	10/21	10/25
28	10/06	10/12	10/16	10/19	10/22	10/25	10/28	10/31	11/04
24	10/17	10/22	10/26	10/30	11/01	11/03	11/06	11/10	11/15
20	10/28	11/01	11/04	11/07	11/10	11/13	11/17	11/21	11/28
16	11/04	11/08	11/13	11/17	11/21	11/25	11/28	12/02	12/07
				Freeze F	ree Period				
- (5)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	167	161	156	152	148	144	140	136	128
32	189	182	177	172	168	164	160	155	148
28	210	204	198	194	190	185	181	176	168
24	230	222	217	213	209	205	200	195	188
20	251	243	237	232	228	223	219	214	207
16	270	263	256	251	247	242	237	231	224

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1735 ft. Lat: 36.9092° N Lon: -119.0883° W

Station: BALCH POWER HOUSE, CA US USC00040449

#### Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	·			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/02	04/24	04/19	04/14	04/09	04/04	03/29	03/20	03/08
32	04/13	04/03	03/25	03/15	03/05	02/25	02/16	02/07	01/28
28	03/25	03/01	02/14	02/04	01/29	01/20	01/10	01/02	12/25
24	02/16	02/01	01/26	01/17	01/08	01/03	12/30	12/24	12/16
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	es (Month/Day)				
Tamm (F)			F	Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/09	11/15	11/19	11/23	11/26	11/29	12/02	12/05	12/10
32	11/25	11/30	12/03	12/06	12/10	12/14	12/20	12/27	01/06
28	12/08	12/15	12/21	12/26	01/01	01/05	01/13	01/27	02/12
24	12/13	12/22	12/27	12/31	01/04	01/10	01/20	01/30	02/08
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ee Period				
Tama (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	267	255	247	240	234	227	221	214	204
32	325	310	300	291	282	273	264	253	239
28	365	365	360	351	342	334	325	309	286
24	365	365	365	365	365	365	365	365	348
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

ational Environmental Satellite, Data, and Information Service

Current Location: Elev: 22 ft. Lat: 46.1081° N Lon: -123.2058° W

LATOKANIE OR HO HOOSSELLA

Station: CLATSKANIE, OR US USC00351643

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	., OK 03 0300033104			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/30	05/25	05/20	05/17	05/13	05/09	05/06	05/01	04/27
32	05/10	05/04	05/01	04/28	04/24	04/20	04/16	04/10	04/01
28	04/20	04/11	04/04	03/30	03/25	03/17	03/09	02/27	02/19
24	03/13	03/01	02/25	02/21	02/16	02/10	02/02	01/21	01/05
20	02/23	02/17	02/10	02/02	01/24	01/13	01/05	12/30	12/14
16	02/17	02/09	02/01	01/19	01/06	01/01	12/28	12/20	12/09
				Fall Freeze Da	tes (Month/Day)				
Tomp (E)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/21	09/27	10/01	10/03	10/06	10/09	10/13	10/17	10/24
32	10/04	10/11	10/16	10/20	10/23	10/27	10/31	11/04	11/13
28	10/21	10/28	11/01	11/06	11/11	11/16	11/23	12/01	12/08
24	11/04	11/13	11/23	12/01	12/05	12/11	12/19	12/28	01/09
20	11/18	12/02	12/09	12/17	12/26	01/01	01/09	01/21	02/06
16	12/03	12/10	12/18	12/25	12/30	01/03	01/16	01/31	02/10
				Freeze F	ree Period				
Tomp (E)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	169	161	155	150	146	141	136	131	123
32	211	201	194	188	183	178	172	166	157
28	275	261	251	242	235	227	218	209	198
24	339	324	313	305	297	288	279	268	255
20	365	365	359	348	339	330	320	312	299
16	365	365	365	365	365	364	354	341	325

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6780 ft. Lat: 39.4930° N Lon: -117.0675° W

Station: AUSTIN NUMBER 2, NV US USC00260507

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	06/15	06/09	06/04	06/01	05/27	05/23	05/17	05/12	05/04
28	06/05	05/29	05/21	05/15	05/10	05/04	04/30	04/26	04/19
24	05/20	05/09	05/02	04/28	04/24	04/19	04/14	04/08	03/31
20	05/01	04/23	04/16	04/10	04/05	03/31	03/26	03/18	03/07
16	04/14	04/02	03/25	03/18	03/11	03/05	02/27	02/21	02/13
				Fall Freeze Dat	tes (Month/Day)				
- (5)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	09/12	09/20	09/25	09/30	10/02	10/06	10/09	10/13	10/20
28	09/25	10/02	10/07	10/11	10/15	10/18	10/22	10/27	11/02
24	10/07	10/14	10/20	10/24	10/28	11/01	11/04	11/09	11/14
20	10/20	10/27	10/31	11/04	11/08	11/12	11/16	11/20	11/25
16	10/31	11/06	11/12	11/16	11/20	11/23	11/28	12/01	12/08
				Freeze Fr	ree Period				
				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	127	119	114	109	104	99	93	86	77
32	155	145	138	132	126	121	115	108	99
28	184	174	167	161	155	149	142	134	123
24	216	206	199	192	187	180	173	164	152
20	251	239	231	224	217	211	204	196	185
16	286	275	267	259	253	245	238	228	215

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Cocanic & Atmospheric Administration
National Environmental Satellite Data and Information Service

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 6380 ft. Lat: 36.2402° N Lon: -106.4277° W

Station: ABIQUIU DAM. NM US USC00290041

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	ze Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	lul 31) than indicated(*)			
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/25	05/19	05/14	05/11	05/08	05/05	05/02	04/30	04/26
32	05/13	05/06	05/02	04/30	04/27	04/24	04/21	04/18	04/12
28	04/30	04/24	04/20	04/16	04/13	04/10	04/06	04/03	03/30
24	04/15	04/09	04/05	04/02	03/30	03/26	03/22	03/17	03/10
20	04/02	03/26	03/20	03/16	03/11	03/07	03/03	02/28	02/22
16	03/16	03/08	03/03	02/28	02/23	02/19	02/15	02/10	02/04
				Fall Freeze Da	tes (Month/Day)				
T (E)			ı	Probability of earlier of	late in fall (beginning	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/27	10/01	10/04	10/06	10/08	10/11	10/13	10/16	10/20
32	10/04	10/09	10/12	10/15	10/18	10/20	10/23	10/26	10/31
28	10/13	10/18	10/22	10/26	10/29	11/01	11/03	11/07	11/12
24	10/23	10/29	11/02	11/05	11/08	11/12	11/15	11/18	11/23
20	11/05	11/10	11/14	11/17	11/20	11/23	11/26	11/29	12/03
16	11/15	11/20	11/24	11/27	11/30	12/03	12/06	12/10	12/15
•				Freeze F	ree Period				•
				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	169	163	159	155	152	148	144	139	132
32	192	186	181	177	173	169	165	160	153
28	218	211	206	201	197	193	188	183	174
24	246	238	232	227	223	218	213	207	199
20	275	267	262	257	252	246	241	234	226
16	304	295	290	284	279	275	269	263	254

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 742 ft. Lat: 42.6475° N Lon: -89.0644° W

Station: AFTON. WI US USC00470045

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	e in spring (through J	ul 31) than indicated(*)	<u> </u>		
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/25	05/19	05/14	05/10	05/07	05/03	04/30	04/28	04/23
32	05/11	05/05	05/02	04/29	04/26	04/23	04/20	04/17	04/12
28	04/30	04/25	04/21	04/17	04/15	04/12	04/09	04/05	04/02
24	04/19	04/14	04/10	04/07	04/05	04/03	03/31	03/27	03/21
20	04/10	04/05	04/02	03/31	03/27	03/23	03/20	03/16	03/11
16	04/02	03/28	03/24	03/20	03/17	03/13	03/11	03/07	03/03
				Fall Freeze Da	tes (Month/Day)				
- (5)			ı	Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/18	09/22	09/25	09/27	09/29	10/01	10/04	10/07	10/12
32	09/27	09/30	10/03	10/06	10/09	10/12	10/15	10/19	10/24
28	10/05	10/10	10/15	10/18	10/21	10/24	10/28	10/31	11/04
24	10/16	10/23	10/27	10/30	11/01	11/05	11/08	11/12	11/18
20	10/29	11/02	11/06	11/10	11/14	11/17	11/21	11/24	11/29
16	11/07	11/13	11/18	11/21	11/24	11/27	11/30	12/04	12/09
				Freeze F	ree Period				
- (5)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	162	155	151	147	143	139	134	129	123
32	184	177	172	168	164	160	156	151	144
28	208	202	197	192	188	184	179	174	167
24	231	224	219	214	210	206	202	197	189
20	254	247	241	236	232	228	223	218	210
16	272	265	260	256	252	247	243	237	230

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Current Location: Elev: 9 ft. Lat: 46.1569° N Lon: -123.8825° W Station: ASTORIA REGIONAL AIRPORT, OR US USW00094224

National Environmental Satellite, Data, and Information Service

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tamm (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/14	05/08	05/05	05/02	04/30	04/27	04/23	04/19	04/12
32	04/26	04/18	04/12	04/06	04/01	03/28	03/22	03/15	03/03
28	03/21	03/11	03/02	02/25	02/20	02/15	02/07	01/28	01/07
24	02/23	02/16	02/09	02/02	01/24	01/13	01/03	12/28	12/14
20	02/14	02/02	01/21	01/11	01/04	12/31	12/26	12/19	12/12
16	02/07	01/23	01/08	01/02	12/31	12/25	12/20	12/16	12/12
				Fall Freeze Da	tes (Month/Day)				
T (5)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/30	10/04	10/08	10/12	10/17	10/21	10/25	10/30	11/05
32	10/17	10/25	10/31	11/04	11/09	11/14	11/21	11/29	12/06
28	11/09	11/18	11/28	12/03	12/08	12/14	12/23	01/01	01/19
24	11/28	12/08	12/15	12/22	12/30	01/04	01/16	01/30	02/11
20	12/09	12/14	12/20	12/26	12/31	01/04	01/13	01/23	02/08
16	12/11	12/15	12/19	12/23	12/29	01/01	01/06	01/20	02/05
				Freeze F	ree Period				
T (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	186	179	174	169	165	160	154	147
32	258	245	236	228	221	214	207	198	188
28	337	321	310	301	293	284	276	265	252
24	365	365	365	357	346	336	327	316	306
20	365	365	365	365	365	365	364	353	336
16	365	365	365	365	365	365	365	365	364

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 5345 ft. Lat: 41.4000° N Lon: -104.1016° W

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: ALBIN, WY U	S USC00480080								
				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)		1	!	Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/10	06/05	06/02	05/30	05/27	05/24	05/21	05/18	05/14
32	05/28	05/23	05/20	05/17	05/14	05/11	05/09	05/06	05/03
28	05/16	05/11	05/08	05/06	05/03	05/02	04/30	04/26	04/21
24	05/07	05/03	04/30	04/28	04/24	04/21	04/18	04/14	04/09
20	04/29	04/24	04/20	04/16	04/13	04/10	04/07	04/03	03/30
16	04/19	04/14	04/09	04/06	04/03	04/01	03/28	03/23	03/16
				Fall Freeze Dat	tes (Month/Day)				
Town (F)			F	Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/09	09/14	09/17	09/19	09/21	09/24	09/26	09/29	10/02
32	09/16	09/21	09/24	09/27	09/29	10/01	10/04	10/07	10/11
28	09/23	09/28	10/01	10/04	10/06	10/10	10/13	10/16	10/21
24	09/29	10/04	10/08	10/12	10/15	10/18	10/22	10/25	10/30
20	10/07	10/15	10/19	10/22	10/25	10/28	10/31	11/03	11/09
16	10/19	10/24	10/29	11/01	11/04	11/07	11/11	11/14	11/19
				Freeze Fr	ree Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	133	127	123	120	116	112	109	104	97
32	154	148	144	140	137	133	129	124	118
28	175	168	163	159	156	152	148	143	137
24	195	188	183	178	174	170	165	160	153

194

215

190

210

185

205

179

199

172

192

199

219

203

224

209

230

216

239

blank: missing or insufficient data

20

16

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

#### Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

National Environmental Satellite, Data, and Information Service Current Location: Elev: 435 ft. Lat: 47.2613° N Lon: -123.7147° W

Current Location: Elev: 435 ft. Lat: 47.2613° N Lon: -123.7147° W
Station: ABERDEEN 20 NNE, WA US USC00450013

				Freez	e Data							
				Spring Freeze D	ates (Month/Day)							
Town (E)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)					
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90			
36	05/30	05/25	05/21	05/17	05/14	05/10	05/06	05/01	04/27			
32	05/14	05/05	05/01	04/28	04/23	04/18	04/12	04/03	03/27			
28	04/17	04/04	03/28	03/19	03/09	03/01	02/24	02/16	02/02			
24	03/01	02/24	02/17	02/09	02/02	01/23	01/12	01/02	12/19			
20	02/19	02/07	01/29	01/15	01/06	01/01	12/27	12/18	12/08			
16	02/06	01/19	01/05	01/01	12/30	12/26	12/21	12/15	12/08			
		Fall Freeze Dates (Month/Day)										
Tames (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	")					
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90			
36	09/27	10/02	10/05	10/08	10/12	10/15	10/19	10/23	10/30			
32	10/15	10/20	10/25	10/29	11/01	11/05	11/11	11/17	11/25			
28	11/01	11/08	11/15	11/23	11/30	12/04	12/09	12/17	12/29			
24	11/15	11/30	12/07	12/13	12/21	12/28	01/02	01/15	02/02			
20	11/29	12/07	12/14	12/22	12/28	01/01	01/08	01/20	02/07			
16	12/05	12/12	12/18	12/23	12/27	12/30	01/02	01/12	02/01			
				Freeze Fr	ree Period							
Tamm (F)				Probability of longe	er than indicated freez	e free period (Days)						
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90			
36	175	167	161	156	151	146	141	135	126			
32	229	217	209	202	195	189	182	175	164			
28	309	294	282	273	264	254	245	234	217			
24	365	355	343	333	324	315	308	298	281			
20	365	365	365	365	364	356	345	333	317			
16	365	365	365	365	365	365	365	363	349			

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: ADDISON, NY US USC00300023

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 999 ft. Lat: 42.1013° N Lon: -77.2344° W

				Freez	ze Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/12	06/05	06/02	05/31	05/28	05/25	05/21	05/17	05/12
32	05/31	05/27	05/22	05/18	05/15	05/11	05/07	05/03	04/28
28	05/18	05/11	05/06	05/03	04/30	04/28	04/25	04/22	04/17
24	04/30	04/25	04/21	04/19	04/16	04/13	04/10	04/06	04/02
20	04/17	04/12	04/09	04/06	04/03	04/01	03/31	03/27	03/21
16	04/07	04/03	03/31	03/30	03/27	03/23	03/20	03/17	03/12
				Fall Freeze Da	tes (Month/Day)				
_ (=)				Probability of earlier of	late in fall (beginning	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/05	09/14	09/19	09/23	09/25	09/28	09/30	10/02	10/06
32	09/25	09/29	10/01	10/03	10/05	10/08	10/11	10/14	10/19
28	10/04	10/08	10/12	10/15	10/18	10/21	10/24	10/28	11/02
24	10/16	10/21	10/25	10/28	11/01	11/03	11/06	11/10	11/14
20	10/27	11/01	11/05	11/09	11/12	11/15	11/18	11/22	11/27
16	11/09	11/15	11/19	11/23	11/26	11/30	12/02	12/07	12/14
				Freeze F	ree Period				
- (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	137	130	125	121	118	114	109	102	93
32	163	155	150	146	142	138	134	128	122
28	188	181	176	172	167	163	159	154	146
24	215	209	203	199	195	191	186	181	173
20	241	234	229	225	221	217	212	207	200
16	266	258	253	248	244	240	236	230	223

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 50 ft. Lat: 42.0300° N Lon: -124.2453° W

Station: BROOKINGS 2 SE, OR US USC00351055

Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	2 3L, OK 03 030003			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/23	04/14	04/08	04/03	03/30	03/25	03/18	03/08	02/17
32	03/16	03/01	02/16	02/06	01/31	01/20	01/07	12/29	12/17
28	02/01	01/19	01/03	12/31	12/27	12/23	12/19	12/15	12/09
24	-666	-666	-666	-666	-666	-666	-666	-666	-666
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
Tomn (F)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/05	11/14	11/21	11/27	12/02	12/06	12/11	12/19	01/01
32	11/25	12/05	12/12	12/19	12/26	01/02	01/13	01/29	02/16
28	12/07	12/12	12/16	12/19	12/24	12/28	12/31	01/13	01/31
24	-666	-666	-666	-666	-666	-666	-666	-666	-666
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Temp (F)				Probability of long	er than indicated freez	e free period (Days)			
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	295	277	266	257	249	241	233	224	213
32	365	365	361	350	339	331	320	306	287
28	365	365	365	365	365	365	365	365	354
24	365	365	365	365	365	365	365	365	365
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

S

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 5850 ft. Lat: 45.0708° N Lon: -112.0575° W

Station: ALDER 17 S. MT US USC00240110

Summary of Annual Normals 1981-2010 Generated on 01/31/2019 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	MT US USC00240110			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	06/06	06/01	05/27	05/24	05/21	05/17	05/14	05/10	05/06
24	05/19	05/15	05/11	05/08	05/06	05/03	05/01	04/28	04/22
20	05/09	05/04	05/01	04/29	04/25	04/22	04/19	04/15	04/09
16	04/30	04/25	04/21	04/17	04/13	04/09	04/04	03/31	03/24
				Fall Freeze Da	tes (Month/Day)				
Tama (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	09/07	09/12	09/16	09/19	09/22	09/25	09/28	10/02	10/06
24	09/17	09/23	09/27	09/30	10/03	10/06	10/09	10/13	10/18
20	09/28	10/03	10/07	10/10	10/14	10/17	10/20	10/24	10/28
16	10/06	10/14	10/19	10/22	10/25	10/28	10/31	11/03	11/10
				Freeze F	ree Period				
Tames (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	83	75	70	65	60	55	50	44	37
32	114	106	101	95	91	85	80	73	64
28	145	138	133	128	123	119	113	106	95
24	170	163	158	154	150	146	141	136	128
20	194	187	181	177	172	168	163	158	150
16	221	213	206	201	196	191	186	180	171

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 198 ft. Lat: 33.8300° N Lon: -88.5213° W

Station: ABERDEEN, MS US USC00220021

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

,	MS US USC00220021			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	te in spring (through J	ul 31) than indicated('	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/24	04/18	04/14	04/11	04/08	04/05	04/02	03/29	03/23
32	04/13	04/08	04/04	04/01	03/29	03/24	03/20	03/15	03/08
28	04/01	03/27	03/21	03/17	03/12	03/07	03/03	02/27	02/20
24	03/18	03/10	03/05	03/01	02/26	02/21	02/17	02/11	02/03
20	03/05	02/27	02/21	02/16	02/11	02/06	02/01	01/27	01/16
16	02/24	02/16	02/09	02/04	01/31	01/26	01/18	01/09	12/30
				Fall Freeze Da	tes (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/13	10/19	10/23	10/26	10/29	11/01	11/03	11/07	11/13
32	10/23	10/29	11/01	11/05	11/08	11/12	11/16	11/21	11/30
28	11/04	11/09	11/14	11/18	11/23	11/27	12/01	12/04	12/10
24	11/15	11/24	11/30	12/02	12/05	12/09	12/14	12/22	01/01
20	12/01	12/05	12/10	12/15	12/21	12/27	01/01	01/07	01/18
16	12/09	12/15	12/21	12/27	01/01	01/05	01/12	01/20	02/01
				Freeze F	ree Period				
T (5)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	226	218	213	208	204	200	195	189	182
32	253	244	237	231	226	221	216	210	202
28	282	273	266	260	254	249	243	236	226
24	313	303	296	289	283	278	271	264	254
20	341	330	323	317	310	304	298	291	280
16	365	358	348	340	334	328	321	314	304

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1253 ft. Lat: 40.7405° N Lon: -123.2077° W

Station: BIG BAR 4 E. CA US USC00040738

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	CA US USC00040738			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/28	05/19	05/15	05/11	05/07	05/04	05/01	04/28	04/22
32	05/03	04/29	04/25	04/21	04/16	04/12	04/07	03/31	03/21
28	04/16	04/07	03/31	03/24	03/15	03/05	02/24	02/13	01/31
24	03/20	02/27	02/18	02/10	02/03	01/29	01/17	01/04	12/21
20	02/13	02/05	02/01	01/30	01/23	01/15	01/04	12/29	12/18
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	lug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/29	10/02	10/05	10/08	10/12	10/16	10/20	10/25	11/01
32	10/09	10/16	10/22	10/27	11/01	11/05	11/12	11/19	12/01
28	10/24	11/02	11/12	11/21	11/29	12/06	12/13	12/23	01/05
24	11/22	12/06	12/14	12/23	12/31	01/06	01/19	01/30	02/12
20	12/13	12/21	12/30	01/03	01/14	01/22	01/28	02/01	02/09
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Temp (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	183	174	168	162	157	152	148	141	131
32	237	224	215	207	200	193	187	179	169
28	315	297	283	271	262	251	241	228	212
24	365	365	358	345	334	326	314	303	280
20	365	365	365	365	365	365	365	349	333
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4670 ft. Lat: 42.4244° N Lon: -103.7347° W

Station: AGATE 3 E NE US USCO0350030

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: AGATE 3 E, I	NE US USC00250030								
					e Data				
	1				ates (Month/Day)	! 04) ( !	`		
Temp (F)	40			1	te in spring (through J				
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	06/23	06/17	06/13	06/08	06/04	06/01	05/28	05/23	05/17
28	06/10	06/02	05/29	05/24	05/20	05/17	05/14	05/10	05/05
24	05/28	05/20	05/16	05/12	05/09	05/06	05/04	05/01	04/27
20	05/15	05/09	05/05	05/03	04/30	04/27	04/24	04/20	04/15
16	05/04	04/29	04/25	04/22	04/18	04/15	04/11	04/07	04/02
				Fall Freeze Dat	tes (Month/Day)				
Tomp (E)			l	Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	08/28	09/02	09/06	09/09	09/12	09/14	09/17	09/20	09/24
28	09/06	09/11	09/14	09/17	09/20	09/22	09/25	09/28	10/02
24	09/14	09/18	09/22	09/24	09/27	09/30	10/03	10/06	10/10
20	09/20	09/25	09/29	10/02	10/06	10/09	10/12	10/15	10/19
16	09/28	10/03	10/08	10/11	10/15	10/17	10/20	10/24	10/28
				Freeze Fr	ree Period				
<b>T</b> ( <b>F</b> )				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	95	88	82	77	73	68	62	56	47
32	119	112	106	101	97	92	87	81	73
28	140	134	129	124	120	115	110	104	96
24	159	153	148	144	139	135	131	125	117
20	180	173	167	163	159	155	150	144	136
16	202	194	189	184	180	175	170	165	156

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1215 ft. Lat: 46.5257° N Lon: -93.6674° W

Station: AITKIN, MN US USC00210059

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

ation: AllKin, MN U				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/18	06/11	06/06	06/02	05/31	05/28	05/25	05/20	05/14
32	06/04	05/31	05/27	05/23	05/19	05/15	05/10	05/05	04/30
28	05/24	05/18	05/13	05/08	05/04	04/30	04/27	04/23	04/18
24	05/12	05/05	04/30	04/26	04/23	04/19	04/16	04/11	04/06
20	04/26	04/21	04/17	04/14	04/11	04/08	04/05	04/02	03/30
16	04/16	04/11	04/08	04/05	04/03	04/01	03/31	03/27	03/22
				Fall Freeze Da	tes (Month/Day)				
Town (F)				Probability of earlier of	late in fall (beginning A	Aug 1) than indicated(	')		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	08/31	09/05	09/09	09/12	09/15	09/18	09/20	09/23	09/27
32	09/11	09/16	09/19	09/22	09/24	09/27	09/29	10/02	10/06
28	09/20	09/25	09/28	10/01	10/03	10/06	10/09	10/14	10/21
24	10/01	10/04	10/08	10/11	10/15	10/19	10/24	10/30	11/04
20	10/09	10/16	10/21	10/25	10/29	11/01	11/04	11/08	11/13
16	10/22	10/29	11/01	11/04	11/07	11/10	11/13	11/17	11/21
				Freeze F	ree Period				
Temp (F)				Probability of long	er than indicated freez	e free period (Days)			
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	126	119	114	110	105	101	97	91	83
32	148	141	135	130	126	122	117	113	106
28	173	164	159	154	149	144	139	134	126
24	199	190	184	179	173	168	163	157	148
20	220	213	208	203	198	193	188	182	174
16	236	229	225	221	217	213	209	203	196

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 10 ft. Lat: 46.9658° N Lon: -123.8291° W

Station: AREDDEEN WALLS LISCON/50008

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

·			·	Freez	e Data	·	·		
					ates (Month/Day)				
_ (=)						lul 31) than indicated(*)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/11	05/05	05/02	04/30	04/26	04/22	04/17	04/12	04/05
32	04/22	04/13	04/06	04/01	03/28	03/22	03/15	03/05	02/23
28	03/17	03/05	02/28	02/22	02/17	02/09	01/31	01/17	12/31
24	02/23	02/14	02/04	01/27	01/14	01/05	12/31	12/22	12/08
20	02/11	01/29	01/09	01/02	12/31	12/27	12/22	12/14	12/06
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
Town (5)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/10	10/16	10/20	10/24	10/27	10/30	11/02	11/07	11/14
32	10/26	11/01	11/06	11/11	11/16	11/22	11/28	12/03	12/11
28	11/10	11/20	11/29	12/05	12/10	12/18	12/28	01/05	01/25
24	11/27	12/05	12/12	12/20	12/27	01/01	01/12	01/28	02/11
20	12/01	12/10	12/15	12/22	12/27	12/30	01/02	01/18	02/05
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Таши (Б)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	211	202	195	190	185	180	175	169	162
32	275	261	251	243	236	229	221	213	202
28	349	332	320	310	302	293	283	273	259
24	365	365	365	363	353	342	333	322	308
20	365	365	365	365	365	365	365	362	343
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

16

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

04/11

04/06

Current Location: Elev: 1229 ft. Lat: 43.0683° N Lon: -94.3052° W Station: ALGONA 3 W, IA US USC00130133

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

03/10

03/16

	,			Freez	e Data				
				Spring Freeze Da	ates (Month/Day)				
Town (F)			F	Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/23	05/18	05/14	05/11	05/09	05/06	05/03	04/30	04/27
32	05/13	05/08	05/05	05/02	04/30	04/28	04/25	04/22	04/17
28	05/03	04/29	04/26	04/23	04/21	04/18	04/15	04/11	04/06
24	04/23	04/20	04/16	04/14	04/11	04/08	04/06	04/03	03/30
20	04/17	04/12	04/09	04/06	04/04	04/01	03/30	03/24	03/18

#### Fall Freeze Dates (Month/Day)

03/28

03/23

03/20

03/31

T (F)			F	Probability of earlier da	ate in fall (beginning A	ug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/13	09/17	09/20	09/22	09/24	09/27	09/29	10/01	10/06
32	09/20	09/24	09/27	09/29	10/01	10/04	10/07	10/10	10/14
28	09/28	10/02	10/06	10/09	10/12	10/15	10/18	10/21	10/26
24	10/08	10/14	10/17	10/20	10/23	10/25	10/28	11/01	11/05
20	10/19	10/24	10/28	10/31	11/02	11/05	11/07	11/11	11/16
16	10/30	11/02	11/05	11/08	11/11	11/14	11/17	11/21	11/26
	•			Freeze Fr	ee Period				

T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	152	147	143	139	136	132	129	124	119
32	170	164	160	156	152	149	145	141	135
28	192	185	180	176	173	169	164	160	153
24	213	206	201	197	193	190	186	181	175
20	232	225	220	216	211	208	203	199	192
16	250	243	238	233	229	225	220	215	208

<sup>\*</sup> 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

04/03

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1715 ft. Lat: 38.5730° N Lon: -122.4405° W

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

365

365

365

-	C UNION COL, CA US			Free	ze Data				
					Dates (Month/Day)				
				. · •	ite in spring (through J	ul 31) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/26	05/18	05/12	05/06	05/02	04/28	04/24	04/18	04/09
32	05/04	04/27	04/20	04/15	04/08	03/31	03/23	03/12	02/20
28	04/12	04/01	03/21	03/11	02/26	02/05	01/21	01/07	12/24
24	03/17	02/28	02/15	01/26	01/04	12/29	12/24	12/18	12/12
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	ites (Month/Day)				
Tamm (F)				Probability of earlier of	date in fall (beginning /	Aug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/23	11/01	11/06	11/11	11/16	11/21	11/25	12/01	12/06
32	11/11	11/20	11/27	12/02	12/06	12/11	12/18	12/27	01/08
28	11/30	12/07	12/14	12/21	12/30	01/06	01/18	02/06	03/09
24	12/09	12/15	12/19	12/25	12/30	01/10	02/03	02/23	03/11
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Tomp (E)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	229	218	209	203	197	191	183	175	164
32	298	278	265	254	246	238	229	220	208
28	365	365	351	338	325	307	290	275	259
24	365	365	365	365	365	365	365	364	342
20	365	365	365	365	365	365	365	365	365
				1	1	1			

365

365

365

365

365

16

365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 190 ft. Lat: 31.5356° N Lon: -84.1944° W Station: ALBANY SW GEORGIA REGIONAL AIRPORT, GA US USW00013869

#### Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/09	04/04	03/31	03/27	03/23	03/20	03/16	03/11	03/05
32	03/28	03/22	03/17	03/13	03/09	03/05	03/01	02/25	02/18
28	03/15	03/08	03/03	02/28	02/23	02/18	02/13	02/07	01/31
24	03/02	02/23	02/16	02/10	02/05	02/01	01/27	01/18	01/02
20	02/18	02/08	02/02	01/29	01/24	01/16	01/08	12/31	12/22
16	02/07	01/31	01/26	01/21	01/13	01/06	01/01	12/27	12/18
				Fall Freeze Da	tes (Month/Day)				
Tamm (F)				Probability of earlier d	late in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/25	10/30	11/02	11/05	11/08	11/11	11/15	11/19	11/26
32	11/04	11/09	11/14	11/18	11/22	11/26	12/01	12/05	12/13
28	11/18	11/25	12/01	12/03	12/06	12/11	12/18	12/26	01/05
24	12/02	12/07	12/12	12/17	12/23	12/29	01/03	01/12	01/27
20	12/09	12/17	12/22	12/28	01/01	01/07	01/15	01/25	02/04
16	12/13	12/21	12/27	01/01	01/05	01/11	01/19	01/26	02/03
				Freeze F	ree Period				
Т (Г)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	255	247	240	235	230	225	220	215	207
32	286	276	269	263	258	252	246	240	231
28	320	309	302	295	289	283	277	269	260
24	354	339	332	325	319	312	306	298	288
20	365	365	364	355	346	338	333	325	314
16	365	365	365	365	365	365	355	343	334

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 2591 ft. Lat: 33.9255° N Lon: -116.9903° W Station: BEAUMONT NUMBER 2. CA US USW00023156

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	NUMBER 2, CA US US			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later da	te in spring (through J	ul 31) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/01	04/23	04/17	04/13	04/08	04/04	03/31	03/24	03/15
32	04/06	03/30	03/24	03/19	03/13	03/07	03/01	02/20	02/04
28	03/15	03/03	02/22	02/06	01/29	01/18	01/11	01/01	12/20
24	02/18	02/02	01/26	01/16	01/10	01/03	12/29	12/21	12/09
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
Temp (F)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	*)	_	
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/22	10/31	11/04	11/09	11/14	11/18	11/23	11/28	12/04
32	11/06	11/16	11/22	11/27	12/01	12/05	12/10	12/15	12/24
28	11/23	12/01	12/07	12/13	12/20	12/25	01/01	01/11	01/28
24	12/02	12/12	12/21	12/28	01/02	01/08	01/16	01/27	02/08
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Temp (F)				Probability of long	er than indicated freez	e free period (Days)		_	
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	251	241	232	226	220	213	206	198	187
	305	290	280	272	264	256	249	241	229
32	000								
32 28	365	354	345	335	327	317	305	292	277
			345 365	335 365	327 365	317 365	305 361	292 348	277 332

365

365

365

365

365

365

365

365

365

blank: missing or insufficient data

16

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 5740 ft. Lat: 39.9004° N Lon: -116.5876° W

Summary of Annual Normals 1981-2010 Generated on 01/31/2019 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: BEOWAWE 49 S U OF N RANCH, NV US USC00260800 Freeze Data Spring Freeze Dates (Month/Day) Probability of later date in spring (through Jul 31) than indicated(\*) Temp (F) .20 .70 .10 .30 .40 .50 .60 .80 .90 -4444 -4444 -4444 -4444 -4444 -4444 -4444 36 -4444 -4444 32 -4444 -4444 -4444 -4444 -4444 -4444 -4444 -4444 -4444 28 06/07 06/02 05/29 05/24 05/21 05/17 05/13 05/09 05/03 24 05/22 05/16 05/11 05/07 05/03 05/01 04/28 04/23 04/16 20 05/06 04/23 04/18 04/09 04/04 03/28 05/01 04/27 04/13 16 04/23 04/14 04/08 04/02 03/28 03/22 03/16 03/10 03/02 Fall Freeze Dates (Month/Day) Probability of earlier date in fall (beginning Aug 1) than indicated(\*) Temp (F) .10 .20 .30 .50 .60 .70 .80 .90 -4444 -4444 -4444 -4444 -4444 -4444 -4444 -4444 -4444 36 32 -4444 -4444 -4444 -4444 -4444 -4444 -4444 -4444 -4444 28 09/14 09/18 09/21 09/24 09/26 09/29 10/01 10/04 10/08 24 09/22 09/27 09/30 10/02 10/07 10/10 10/18 10/04 10/13 20 10/01 10/05 10/08 10/11 10/14 10/17 10/20 10/24 10/30 16 10/10 10/14 10/18 10/21 10/25 10/28 11/01 11/05 11/12 Freeze Free Period Probability of longer than indicated freeze free period (Days) Temp (F) .10 .20 .30 .40 .50 .60 .70 .80 .90 36 99 92 87 82 78 73 67 60 50 32 124 117 112 107 103 99 94 88 79

128

153

180

212

124

149

174

206

119

144

169

200

114

139

163

192

106

131

155

181

132

157

185

218

137

162

191

225

142

168

197

232

28

24

20

16

149

175

207

242

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Alloria Environmental Gateme, Bata, and miormation Gervice

Current Location: Elev: 6753 ft. Lat: 34.2430° N Lon: -116.9170° W

Station: BIG BEAR LAKE, CA US USC00040741

#### Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	te in spring (through J	ul 31) than indicated('	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	06/04	05/29	05/23	05/18	05/14	05/10	05/05	04/30	04/26
24	05/12	05/04	04/30	04/27	04/24	04/20	04/16	04/11	04/05
20	04/23	04/17	04/13	04/10	04/06	04/03	03/30	03/24	03/14
16	04/12	04/06	04/02	03/28	03/23	03/17	03/11	03/04	02/24
				Fall Freeze Da	tes (Month/Day)				
T (5)				Probability of earlier of	late in fall (beginning A	Aug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	09/25	09/30	10/03	10/06	10/10	10/13	10/17	10/21	10/27
24	10/07	10/13	10/18	10/22	10/27	11/01	11/03	11/06	11/13
20	10/22	11/01	11/05	11/09	11/13	11/16	11/20	11/24	11/29
16	11/09	11/16	11/20	11/23	11/27	12/01	12/04	12/08	12/15
				Freeze F	ree Period				
T (5)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	107	98	92	86	80	73	65	57	47
32	138	130	125	120	116	111	106	99	89
28	173	165	159	153	148	143	138	131	123
24	210	201	195	190	185	180	174	168	158
20	249	239	232	226	221	216	210	204	195
16	282	271	264	257	251	245	239	232	222

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1708 ft. Lat: 36.4914° N Lon: -118.8253° W

Station: ASH MOUNTAIN, CA US USC00040343

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	AIN, CA US USC0004			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/17	05/07	05/02	04/29	04/25	04/21	04/16	04/10	03/31
32	04/30	04/22	04/16	04/10	04/05	03/30	03/22	03/13	03/02
28	04/07	03/27	03/15	03/06	02/26	02/15	02/05	01/29	01/13
24	03/11	02/13	01/31	01/22	01/13	01/06	12/31	12/26	12/17
20	03/02	01/20	01/09	01/03	12/31	12/28	12/23	12/19	12/13
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	es (Month/Day)				
Тотт (Г)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/17	10/24	10/30	11/02	11/06	11/10	11/13	11/17	11/22
32	10/31	11/08	11/14	11/18	11/21	11/25	11/29	12/03	12/08
28	11/18	11/26	12/01	12/05	12/09	12/13	12/17	12/24	01/01
24	12/05	12/13	12/18	12/23	12/27	12/31	01/05	01/14	02/01
20	12/12	12/18	12/22	12/26	12/29	12/31	01/06	01/15	02/04
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ee Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	225	214	208	202	196	191	185	177	166
32	270	257	248	240	233	225	218	210	199
28	334	320	308	298	289	279	270	258	244
24	365	365	364	358	352	345	335	325	300
20	365	365	365	365	365	365	365	365	355
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4380 ft. Lat: 32.9181° N Lon: -105.9550° W

Station: ALAMOGORDO, NM US USC00290199

Summary of Annual Normals 1981-2010 Generated on 01/31/2019 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Freeze Data reze Dates (Month/Day)

				Free	ze Data						
					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	04/20	04/15	04/10	04/07	04/04	04/01	03/29	03/25	03/18		
32	04/08	04/03	03/30	03/26	03/21	03/17	03/12	03/07	03/01		
28	03/27	03/18	03/12	03/07	03/03	02/27	02/21	02/15	02/07		
24	03/10	03/02	02/22	02/15	02/09	02/04	01/31	01/26	01/14		
20	02/19	02/07	02/01	01/27	01/21	01/13	01/07	12/31	12/22		
16	02/03	01/24	01/14	01/07	01/03	12/30	12/25	12/19	12/14		
				Fall Freeze Da	ites (Month/Day)						
T (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)										
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	10/21	10/25	10/28	10/31	11/02	11/04	11/06	11/09	11/14		
32	10/29	11/03	11/05	11/08	11/11	11/14	11/17	11/20	11/24		
28	11/08	11/14	11/17	11/20	11/23	11/26	11/29	12/02	12/06		
24	11/21	11/26	11/30	12/02	12/05	12/08	12/11	12/17	12/24		
20	12/01	12/05	12/10	12/14	12/19	12/23	12/28	01/03	01/15		
16	12/06	12/12	12/17	12/21	12/26	12/30	01/04	01/09	01/24		
				Freeze F	ree Period						
T (F)	Probability of longer than indicated freeze free period (Days)										
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	231	224	219	214	210	207	203	198	191		
32	259	251	244	239	234	229	224	218	211		
28	292	283	276	270	264	259	253	246	237		
24	330	319	310	303	297	291	284	276	265		
20	364	354	346	339	334	328	320	310	299		
16	365	365	365	365	364	358	350	342	333		

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 796 ft. Lat: 41.8678° N Lon: -84.0794° W Station: ADRIAN LENAWEE CO AIRPORT, MI US USW00004847

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

					e Data						
					ates (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	05/25	05/20	05/16	05/12	05/08	05/05	05/02	04/29	04/24		
32	05/13	05/08	05/04	05/01	04/28	04/25	04/22	04/19	04/14		
28	05/02	04/27	04/23	04/20	04/17	04/14	04/10	04/06	04/02		
24	04/20	04/16	04/12	04/08	04/05	04/03	03/31	03/28	03/22		
20	04/13	04/07	04/03	03/31	03/28	03/24	03/20	03/16	03/11		
16	04/05	03/30	03/25	03/21	03/17	03/14	03/11	03/07	03/02		
				Fall Freeze Dat	es (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	09/22	09/25	09/28	10/01	10/03	10/05	10/07	10/11	10/15		
32	10/01	10/04	10/07	10/10	10/13	10/16	10/20	10/24	10/29		
28	10/10	10/16	10/20	10/24	10/27	10/30	11/02	11/06	11/12		
24	10/22	10/29	11/01	11/06	11/09	11/13	11/16	11/21	11/27		
20	11/04	11/11	11/16	11/20	11/24	11/27	12/01	12/04	12/11		
16	11/19	11/25	11/30	12/02	12/05	12/08	12/12	12/17	12/22		
		•		Freeze Fr	ee Period						
Temp (F)	Probability of longer than indicated freeze free period (Days)										
	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	163	157	152	148	144	140	136	131	125		
32	187	180	175	170	166	162	158	153	147		
28	213	206	201	196	192	187	183	177	170		
24	239	232	226	221	217	212	208	202	194		
20	263	256	250	246	241	237	232	226	217		
16	284	276	271	266	262	257	252	247	238		

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1925 ft. Lat: 36.6687° N Lon: -81.9646° W

Station: ABINGDON 3 S, VA US USC00440021

#### Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	5, VA US USC004400			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/22	05/15	05/11	05/07	05/03	04/30	04/28	04/24	04/20
32	05/10	05/03	04/29	04/26	04/22	04/19	04/16	04/13	04/08
28	04/25	04/20	04/16	04/13	04/10	04/07	04/03	03/31	03/25
24	04/14	04/09	04/05	04/01	03/30	03/25	03/22	03/17	03/11
20	04/05	03/30	03/25	03/21	03/17	03/12	03/08	03/03	02/25
16	03/27	03/19	03/13	03/07	03/02	02/27	02/20	02/15	02/07
				Fall Freeze Dat	es (Month/Day)				
Tomp (E)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/23	09/28	10/01	10/04	10/06	10/09	10/13	10/17	10/23
32	10/02	10/07	10/11	10/14	10/17	10/20	10/24	10/27	11/02
28	10/11	10/17	10/21	10/24	10/27	10/31	11/03	11/06	11/11
24	10/21	10/28	11/01	11/04	11/07	11/10	11/14	11/19	11/28
20	11/04	11/10	11/14	11/18	11/22	11/27	12/01	12/04	12/11
16	11/17	11/24	11/29	12/02	12/05	12/08	12/13	12/19	12/27
				Freeze Fr	ee Period				
Tomp (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	175	168	162	158	153	149	144	139	131
32	199	191	185	180	176	171	166	161	153
28	222	214	209	204	200	195	190	185	177
24	249	240	233	228	223	218	213	207	199
20	278	268	261	255	250	244	239	232	224
16	306	297	289	283	277	271	265	257	248

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1297 ft. Lat: 45.4433° N Lon: -98.4130° W Station: ABERDEEN REGIONAL AIRPORT. SD US USW00014929

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	<u></u> ,	SD 05 05W00014929		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/03	05/30	05/26	05/23	05/19	05/16	05/13	05/09	05/05
32	05/24	05/18	05/15	05/12	05/09	05/06	05/03	04/30	04/26
28	05/14	05/09	05/06	05/02	04/30	04/28	04/25	04/21	04/16
24	05/06	05/01	04/27	04/24	04/21	04/18	04/15	04/11	04/06
20	04/28	04/21	04/17	04/13	04/10	04/07	04/04	04/01	03/27
16	04/16	04/10	04/06	04/03	04/01	03/30	03/26	03/22	03/17
				Fall Freeze Dat	tes (Month/Day)				
Tomp (F)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/01	09/07	09/10	09/13	09/15	09/17	09/20	09/22	09/26
32	09/12	09/16	09/19	09/21	09/23	09/25	09/28	10/01	10/04
28	09/20	09/24	09/27	09/30	10/02	10/04	10/07	10/10	10/15
24	09/29	10/02	10/05	10/08	10/11	10/14	10/18	10/21	10/25
20	10/06	10/11	10/16	10/19	10/22	10/25	10/28	11/01	11/05
16	10/15	10/22	10/26	10/29	11/01	11/03	11/06	11/09	11/15
				Freeze Fr	ree Period				
Temp (F)				Probability of longe	er than indicated freez	e free period (Days)			
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	135	129	124	120	117	113	109	104	97
32	152	146	142	139	135	131	128	123	117
28	171	165	160	156	152	149	145	140	134
24	191	185	180	175	171	167	162	157	150
20	213	206	201	196	192	187	183	177	169
16	232	226	221	216	212	208	203	197	189

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

ational Environmental Satellite, Data, and information Service

Current Location: Elev: 2510 ft. Lat: 42.5522° N Lon: -99.8555° W

Station: AINSWORTH, NE US USC00250050

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Tellip (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/24	05/18	05/14	05/12	05/09	05/07	05/04	05/02	04/28
32	05/13	05/09	05/05	05/03	05/01	04/29	04/26	04/23	04/18
28	05/04	04/30	04/27	04/24	04/22	04/19	04/15	04/12	04/08
24	04/25	04/21	04/18	04/14	04/11	04/08	04/05	04/02	03/29
20	04/18	04/13	04/09	04/06	04/03	03/31	03/28	03/23	03/18
16	04/10	04/05	04/01	03/29	03/25	03/21	03/17	03/13	03/07
				Fall Freeze Da	tes (Month/Day)				
<b>.</b> (5)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/15	09/20	09/23	09/26	09/28	09/30	10/03	10/06	10/10
32	09/22	09/27	10/01	10/04	10/07	10/10	10/13	10/16	10/20
28	10/01	10/07	10/11	10/14	10/17	10/20	10/22	10/25	10/29
24	10/10	10/16	10/20	10/22	10/25	10/27	10/30	11/02	11/08
20	10/18	10/24	10/28	10/31	11/03	11/06	11/09	11/13	11/18
16	10/28	11/01	11/05	11/09	11/12	11/15	11/19	11/23	11/27
				Freeze F	ree Period			•	
				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	157	151	147	143	140	136	132	128	121
32	176	170	165	161	158	153	149	145	138
28	196	190	185	180	177	173	168	163	155
24	216	208	203	199	195	191	187	182	175
20	235	228	222	218	213	209	204	199	191
16	254	246	241	235	231	226	221	216	208

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 196 ft. Lat: 45.2486° N Lon: -122.7686° W Station: AURORA STATE AIRPORT, OR US USW00094281

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

<u> </u>	ATE AIRPORT, OR US	001100001201		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/07	05/03	04/30	04/27	04/23	04/18	04/14	04/09	04/02
32	04/18	04/08	04/01	03/27	03/22	03/16	03/10	02/28	02/20
28	03/11	02/28	02/24	02/19	02/14	02/08	02/02	01/24	01/09
24	02/19	02/11	02/05	01/31	01/20	01/10	01/03	12/27	12/13
20	02/15	02/06	01/31	01/13	01/04	12/31	12/24	12/16	12/07
16	02/14	02/01	01/05	12/31	12/28	12/23	12/18	12/13	12/07
				Fall Freeze Da	tes (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/07	10/13	10/18	10/21	10/24	10/27	10/30	11/03	11/10
32	10/25	10/30	11/02	11/06	11/11	11/16	11/21	11/27	12/03
28	11/07	11/14	11/21	11/27	12/02	12/07	12/12	12/20	12/29
24	11/19	11/30	12/07	12/12	12/19	12/26	01/01	01/12	01/31
20	11/30	12/09	12/14	12/20	12/27	01/01	01/08	01/27	02/07
16	12/06	12/11	12/16	12/20	12/24	12/29	01/01	01/21	02/10
				Freeze F	ree Period				
Tames (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	211	202	195	190	185	180	175	169	161
32	271	258	249	241	235	228	221	213	203
28	331	317	308	300	292	284	276	267	255
24	365	363	355	345	336	329	321	312	299
20	365	365	365	365	365	361	351	339	324
16	365	365	365	365	365	365	365	365	349

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Generated on 01/31/2019 Current Location: Elev: 1213 ft. Lat: 40.9181° N Lon: -81.4435° W

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Free	ze Data				
				Spring Freeze I	Dates (Month/Day)				
Temp (F)				Probability of later da	ate in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/26	05/20	05/14	05/10	05/06	05/03	04/30	04/26	04/22
32	05/12	05/06	05/02	04/29	04/26	04/23	04/20	04/17	04/12
28	05/01	04/25	04/21	04/18	04/15	04/12	04/08	04/05	04/01
24	04/18	04/14	04/10	04/06	04/04	04/01	03/30	03/26	03/21
20	04/08	04/03	03/31	03/28	03/25	03/22	03/18	03/15	03/10
16	03/31	03/26	03/21	03/18	03/15	03/12	03/09	03/05	02/28
				Fall Freeze Da	ates (Month/Day)				
Tamm (F)			I	Probability of earlier	date in fall (beginning A	Aug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/26	09/30	10/02	10/05	10/07	10/09	10/12	10/16	10/21
32	10/05	10/10	10/13	10/17	10/20	10/23	10/26	10/30	11/03
28	10/17	10/22	10/27	10/31	11/02	11/05	11/08	11/11	11/16
24	11/01	11/04	11/08	11/11	11/14	11/18	11/22	11/26	12/01
20	11/10	11/16	11/20	11/24	11/28	12/01	12/04	12/08	12/15
16	11/21	11/27	12/01	12/04	12/07	12/11	12/16	12/21	12/26
				Freeze F	ree Period				
Тата (Б)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	171	165	160	156	152	147	143	137	130
32	196	189	184	179	175	171	167	162	154

blank: missing or insufficient data

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Summary of Annual Normals 1981-2010

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Generated on 01/31/2019

Current Location: Elev: 335 ft. Lat: 33.8647° N Lon: -117.8425° W Station: ANAHEIM, CA US USC00040192

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	02/16	02/07	01/31	01/21	01/11	01/04	12/29	12/21	12/11
32	-666	-666	-666	-666	-666	-666	-666	-666	-666
28	-666	-666	-666	-666	-666	-666	-666	-666	-666
24	-666	-666	-666	-666	-666	-666	-666	-666	-666
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	es (Month/Day)				
T (F)			i	Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	12/06	12/13	12/20	12/25	12/30	01/04	01/12	01/27	02/08
32	-666	-666	-666	-666	-666	-666	-666	-666	-666
28	-666	-666	-666	-666	-666	-666	-666	-666	-666
24	-666	-666	-666	-666	-666	-666	-666	-666	-666
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ee Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	365	365	365	365	365	357	347	335	322
32	365	365	365	365	365	365	365	365	365
28	365	365	365	365	365	365	365	365	365
24	365	365	365	365	365	365	365	365	365
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1015 ft. Lat: 34.7864° N Lon: -96.6850° W

Station: ADA. OK US USC00340017

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

ation: ADA, OK US				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/23	04/18	04/15	04/12	04/09	04/07	04/04	04/01	03/27
32	04/14	04/09	04/05	04/03	03/31	03/28	03/24	03/20	03/15
28	04/04	03/31	03/26	03/22	03/18	03/15	03/11	03/07	03/01
24	03/24	03/17	03/13	03/09	03/06	03/02	02/27	02/22	02/14
20	03/14	03/07	03/03	02/28	02/23	02/18	02/12	02/06	01/31
16	03/05	02/28	02/20	02/14	02/08	02/04	01/31	01/26	01/16
				Fall Freeze Da	tes (Month/Day)				
- (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	')		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/10	10/17	10/21	10/24	10/26	10/29	11/01	11/04	11/10
32	10/22	10/27	10/30	11/02	11/05	11/08	11/12	11/16	11/21
28	10/29	11/03	11/07	11/12	11/15	11/19	11/23	11/27	12/02
24	11/05	11/13	11/18	11/23	11/27	11/30	12/03	12/08	12/15
20	11/16	11/25	12/01	12/04	12/08	12/12	12/17	12/23	12/30
16	12/01	12/06	12/12	12/16	12/21	12/26	12/31	01/06	01/16
				Freeze F	ree Period				
Tamm (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	220	213	208	203	200	196	191	186	179
32	241	234	228	224	220	215	211	206	198
28	266	257	251	246	241	236	231	225	217
24	291	282	275	269	264	259	253	246	237
20	318	308	301	295	289	283	276	269	259
16	342	332	325	318	312	306	300	292	281

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1290 ft. Lat: 34.2280° N Lon: -113.5777° W

Station: ALAMO DAM, AZ US USC00020100

Summary of Annual Normals 1981-2010 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Generated on 01/31/2019

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
- (E)					e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/01	03/22	03/16	03/11	03/08	03/04	03/01	02/23	02/15
32	03/09	03/02	02/26	02/20	02/14	02/09	02/03	01/29	01/20
28	02/20	02/08	02/02	01/28	01/20	01/14	01/08	12/31	12/24
24	02/04	01/29	01/15	01/09	01/03	12/31	12/28	12/23	12/16
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	es (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/10	11/15	11/18	11/21	11/23	11/25	11/28	12/01	12/05
32	11/22	11/26	11/29	12/01	12/04	12/07	12/10	12/14	12/19
28	12/02	12/07	12/11	12/15	12/19	12/23	12/27	01/02	01/12
24	12/12	12/17	12/23	12/26	12/30	01/02	01/06	01/15	02/01
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ee Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	283	275	269	264	260	255	249	243	233
32	323	312	304	299	293	288	282	275	266
28	364	354	347	340	334	329	321	312	301
24	365	365	365	365	365	365	361	354	340
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1790 ft. Lat: 32.4105° N Lon: -99.6822° W Station: ABILENE REGIONAL AIRPORT, TX US USW00013962

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

MICH. METERIC RE	GIONAL AIRPORT, TX	00 001100010002		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomn (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/19	04/14	04/10	04/07	04/04	04/01	03/29	03/25	03/18
32	04/11	04/04	04/01	03/28	03/24	03/20	03/15	03/11	03/05
28	03/30	03/22	03/17	03/13	03/10	03/06	03/02	02/25	02/19
24	03/16	03/10	03/05	02/28	02/25	02/20	02/15	02/08	01/30
20	03/06	02/27	02/20	02/14	02/08	02/02	01/28	01/20	01/07
16	02/20	02/11	02/04	01/30	01/23	01/16	01/06	12/31	12/21
				Fall Freeze Dat	es (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/20	10/25	10/28	10/31	11/02	11/05	11/08	11/11	11/16
32	10/30	11/03	11/06	11/09	11/12	11/15	11/18	11/23	11/28
28	11/06	11/12	11/16	11/20	11/24	11/28	12/01	12/05	12/11
24	11/16	11/24	11/29	12/02	12/05	12/09	12/14	12/20	12/28
20	11/29	12/04	12/08	12/13	12/19	12/24	12/30	01/04	01/16
16	12/06	12/12	12/18	12/24	12/28	01/02	01/08	01/19	02/02
				Freeze Fr	ee Period				
Town (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	233	226	221	216	212	208	204	199	192
32	258	250	244	239	234	229	224	218	211
28	286	276	270	264	259	253	248	241	233
24	318	306	299	292	286	280	274	267	257
20	350	337	329	322	315	307	300	292	281
16	365	365	362	353	343	336	329	319	307

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 60 ft. Lat: 37.9833° N Lon: -121.7525° W Station: ANTIOCH PUMP PLANT 3, CA US USC00040232

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	MP PLANT 3, CA US (			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	03/31	03/19	03/10	03/02	02/25	02/19	02/13	02/06	01/30
32	02/19	02/11	02/04	01/31	01/27	01/21	01/15	01/07	12/29
28	02/01	01/26	01/19	01/14	01/07	01/02	12/30	12/24	12/15
24	01/23	01/16	01/10	01/05	01/01	12/31	12/28	12/24	12/16
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	es (Month/Day)				
Tomp (E)			1	Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/13	11/19	11/23	11/26	11/30	12/02	12/05	12/08	12/14
32	11/25	12/01	12/04	12/08	12/11	12/15	12/21	12/28	01/07
28	12/04	12/11	12/16	12/21	12/25	12/30	01/03	01/10	01/20
24	12/12	12/22	12/26	12/29	12/31	01/02	01/08	01/14	01/21
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ee Period				
Temp (F)				Probability of longe	er than indicated freez	e free period (Days)			
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	308	298	291	284	278	272	264	255	243
32	353	343	336	330	324	317	310	303	292
28	365	365	365	365	359	352	346	339	331
24	365	365	365	365	365	365	365	365	362
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 565 ft. Lat: 33.1783° N Lon: -86.7817° W Station: ALABASTER SHELBY CO AIRPORT, AL US USW00053864 Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

		11, AL US USW0005386		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/18	04/13	04/09	04/06	04/03	04/01	03/28	03/23	03/16
32	04/06	04/01	03/28	03/24	03/19	03/15	03/11	03/05	02/26
28	03/24	03/17	03/12	03/07	03/03	02/27	02/23	02/17	02/10
24	03/12	03/04	02/27	02/21	02/15	02/10	02/04	01/31	01/23
20	03/02	02/19	02/11	02/04	01/31	01/28	01/21	01/12	01/01
16	02/14	02/04	01/31	01/26	01/21	01/14	01/07	01/01	12/23
				Fall Freeze Dat	es (Month/Day)				
Town (E)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/19	10/24	10/28	10/31	11/02	11/05	11/08	11/13	11/19
32	10/31	11/04	11/08	11/11	11/16	11/20	11/24	11/30	12/05
28	11/11	11/18	11/24	11/29	12/01	12/04	12/08	12/13	12/24
24	11/28	12/02	12/06	12/11	12/15	12/21	12/26	01/01	01/09
20	12/07	12/13	12/19	12/24	12/28	01/01	01/07	01/15	01/27
16	12/12	12/19	12/25	12/30	01/03	01/08	01/16	01/23	02/01
				Freeze Fr	ee Period				
Town (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	237	229	223	218	213	209	204	199	192
32	270	260	252	247	241	236	230	224	215
28	301	291	284	278	273	267	261	254	245
24	332	322	315	308	302	296	290	282	271
20	363	350	341	334	329	323	316	307	296
16	365	365	365	360	352	345	337	330	318

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 12 ft. Lat: 45.2050° N Lon: -123.8925° W

Station: CLOVERDALE, OR US USC00351682

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	E, OR US USC0035160	-		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/11	05/04	04/30	04/27	04/22	04/15	04/09	03/31	03/24
32	04/08	03/29	03/19	03/09	02/28	02/22	02/15	02/06	01/20
28	02/20	02/13	02/06	01/31	01/21	01/10	01/02	12/24	12/08
24	02/14	02/03	01/22	01/09	01/02	12/30	12/24	12/16	12/09
20	02/11	01/28	01/01	12/30	12/26	12/23	12/18	12/15	12/11
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	tes (Month/Day)				
Town (E)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/06	10/15	10/20	10/25	10/29	11/02	11/09	11/17	11/29
32	10/30	11/08	11/16	11/26	12/02	12/07	12/14	12/26	01/08
28	11/12	11/28	12/07	12/13	12/23	12/31	01/09	01/23	02/06
24	12/02	12/11	12/16	12/23	12/28	01/01	01/11	01/26	02/08
20	12/10	12/13	12/17	12/21	12/25	12/28	12/31	01/07	02/07
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ree Period				
Town (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	233	219	209	201	193	186	179	171	160
32	322	306	294	284	274	264	253	242	225
28	365	365	363	352	341	332	323	313	300
24	365	365	365	365	365	365	364	352	333
20	365	365	365	365	365	365	365	365	362
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 2165 ft. Lat: 33.9433° N Lon: -113.1875° W

Station: AGUILA, AZ US USC00020060

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

ation. AGGILA, AZ C				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/01	04/25	04/20	04/16	04/13	04/09	04/04	03/30	03/22
32	04/16	04/09	04/05	03/31	03/26	03/20	03/15	03/07	02/26
28	04/01	03/20	03/12	03/03	02/24	02/14	02/07	01/31	01/19
24	03/08	02/20	02/06	01/31	01/21	01/12	01/05	12/29	12/18
20	02/07	01/29	01/16	01/09	01/04	12/31	12/24	12/15	12/07
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
Town (F)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/23	10/29	11/02	11/05	11/08	11/11	11/14	11/17	11/21
32	11/03	11/09	11/13	11/16	11/19	11/22	11/25	11/29	12/04
28	11/16	11/21	11/25	11/29	12/01	12/05	12/09	12/13	12/20
24	11/28	12/03	12/08	12/12	12/17	12/23	12/29	01/05	01/23
20	12/05	12/10	12/16	12/24	12/30	01/04	01/09	01/21	02/02
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Tamm (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	235	227	221	215	211	206	201	195	187
32	273	262	254	247	241	235	229	222	213
28	321	308	299	291	283	274	266	256	243
24	365	357	348	341	334	327	317	304	286
20	365	365	365	365	365	365	364	353	338
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 20 ft. Lat: 43.1497° N Lon: -124.4019° W

Station: BANDON 2 NNE. OR US USC00350471

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*)			
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/17	05/10	05/06	05/02	04/29	04/26	04/21	04/15	04/06
32	04/21	04/12	04/05	03/30	03/25	03/17	03/06	02/25	02/15
28	03/18	02/28	02/22	02/16	02/09	02/02	01/25	01/08	12/22
24	02/19	02/12	02/03	01/26	01/12	12/31	12/24	12/16	12/07
20	02/08	02/01	12/29	12/25	12/21	12/18	12/15	12/13	12/09
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
T (E)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(*)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/01	10/08	10/15	10/20	10/25	10/29	11/02	11/08	11/18
32	10/25	11/02	11/08	11/14	11/21	11/27	12/02	12/08	12/18
28	11/12	11/25	12/03	12/09	12/16	12/25	01/02	01/17	02/03
24	11/30	12/09	12/15	12/22	12/29	01/06	01/24	02/02	02/14
20	12/09	12/13	12/15	12/17	12/20	12/24	12/28	12/31	02/07
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
T (E)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	209	198	190	183	177	170	165	157	146
32	289	274	262	253	245	237	227	217	204
28	365	346	334	323	314	306	295	283	265
24	365	365	365	365	365	365	352	337	320
20	365	365	365	365	365	365	365	365	362
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4332 ft. Lat: 42.9694° N Lon: -119.9933° W

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: ALKALI LAKI	E, OR US USC0035011	10							
				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	06/15	06/08	06/03	05/31	05/27	05/23	05/19	05/15	05/09
24	05/28	05/21	05/17	05/13	05/09	05/06	05/02	04/29	04/23
20	05/14	05/06	05/01	04/28	04/24	04/20	04/15	04/10	04/04
16	04/27	04/18	04/11	04/06	04/02	03/29	03/24	03/16	03/05
				Fall Freeze Da	tes (Month/Day)				
Town (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	4444	4444	4444			l		
	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444 -4444	-4444 -4444	-4444 -4444	-4444 -4444	-4444 -4444	-4444 -4444	-4444 -4444	-4444 -4444
32 28									
	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	-4444 09/06	-4444 09/11	-4444 09/14	-4444 09/17	-4444 09/19	-4444 09/22	-4444 09/25	-4444 09/28	-4444 10/02
28 24	-4444 09/06 09/16	-4444 09/11 09/22	-4444 09/14 09/26	-4444 09/17 09/29	-4444 09/19 10/01	-4444 09/22 10/04	-4444 09/25 10/07	-4444 09/28 10/11	-4444 10/02 10/16
28 24 20	-4444 09/06 09/16 09/28	-4444 09/11 09/22 10/03	-4444 09/14 09/26 10/07	-4444 09/17 09/29 10/11 10/24	-4444 09/19 10/01 10/15	-4444 09/22 10/04 10/18	-4444 09/25 10/07 10/22	-4444 09/28 10/11 10/25	-4444 10/02 10/16 10/30
28 24 20 16	-4444 09/06 09/16 09/28	-4444 09/11 09/22 10/03	-4444 09/14 09/26 10/07	-4444 09/17 09/29 10/11 10/24 Freeze Fr	-4444 09/19 10/01 10/15 10/28	-4444 09/22 10/04 10/18 10/31	-4444 09/25 10/07 10/22	-4444 09/28 10/11 10/25	-4444 10/02 10/16 10/30
28 24 20	-4444 09/06 09/16 09/28	-4444 09/11 09/22 10/03	-4444 09/14 09/26 10/07	-4444 09/17 09/29 10/11 10/24 Freeze Fr	-4444 09/19 10/01 10/15 10/28 ree Period	-4444 09/22 10/04 10/18 10/31	-4444 09/25 10/07 10/22	-4444 09/28 10/11 10/25	-4444 10/02 10/16 10/30
28 24 20 16	-4444 09/06 09/16 09/28 10/09	-4444 09/11 09/22 10/03 10/16	-4444 09/14 09/26 10/07 10/20	-4444 09/17 09/29 10/11 10/24 Freeze F	-4444 09/19 10/01 10/15 10/28 ree Period er than indicated freez	-4444 09/22 10/04 10/18 10/31 e free period (Days)	-4444 09/25 10/07 10/22 11/02	-4444 09/28 10/11 10/25 11/08	-4444 10/02 10/16 10/30 11/16
28 24 20 16 Temp (F)	-4444 09/06 09/16 09/28 10/09	-4444 09/11 09/22 10/03 10/16	-4444 09/14 09/26 10/07 10/20	-4444 09/17 09/29 10/11 10/24 Freeze F Probability of longer	-4444 09/19 10/01 10/15 10/28 ree Period er than indicated freez	-4444 09/22 10/04 10/18 10/31 e free period (Days) .60	-4444 09/25 10/07 10/22 11/02	-4444 09/28 10/11 10/25 11/08	-4444 10/02 10/16 10/30 11/16

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1187 ft. Lat: 38.9266° N Lon: -97.2129° W

Station: ABILENE, KS US USC00140010

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

ation: ABILENE, KS				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomn (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/05	05/01	04/29	04/26	04/24	04/21	04/18	04/14	04/09
32	04/29	04/24	04/21	04/17	04/14	04/11	04/08	04/04	03/31
28	04/20	04/14	04/10	04/07	04/04	04/02	03/30	03/27	03/21
24	04/10	04/05	04/02	03/30	03/27	03/23	03/20	03/15	03/10
20	04/02	03/28	03/23	03/19	03/16	03/12	03/09	03/04	02/27
16	03/23	03/16	03/12	03/09	03/05	03/01	02/26	02/21	02/13
				Fall Freeze Dat	tes (Month/Day)				
T (F)			i	Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/27	10/02	10/06	10/10	10/12	10/15	10/18	10/21	10/25
32	10/06	10/13	10/17	10/20	10/23	10/25	10/28	11/01	11/05
28	10/17	10/23	10/27	10/30	11/01	11/04	11/06	11/11	11/16
24	10/27	11/01	11/04	11/07	11/10	11/14	11/17	11/22	11/28
20	11/03	11/08	11/13	11/17	11/21	11/24	11/29	12/03	12/08
16	11/11	11/18	11/24	11/28	12/01	12/05	12/09	12/14	12/21
				Freeze Fr	ree Period				
Tamm (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	190	184	179	174	171	167	163	158	151
32	211	204	199	194	190	186	182	177	169
28	231	224	219	215	211	207	202	197	190
24	253	245	239	234	229	225	220	214	207
20	275	266	260	255	250	245	239	233	225
16	299	290	283	277	272	267	261	254	246

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1142 ft. Lat: 48.3005° N Lon: -95.9816° W

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: AGASSIZ RE	FUGE, MN US USC002	210050							
				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Tellip (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/03	05/29	05/26	05/22	05/18	05/15	05/11	05/08	05/04
32	05/23	05/17	05/14	05/10	05/07	05/04	05/02	04/29	04/25
28	05/13	05/08	05/04	05/01	04/29	04/26	04/23	04/20	04/15
24	05/03	04/29	04/25	04/22	04/20	04/17	04/14	04/10	04/06
20	04/24	04/20	04/16	04/13	04/11	04/08	04/06	04/04	03/31
16	04/18	04/13	04/10	04/07	04/05	04/03	04/01	03/30	03/25
				Fall Freeze Da	tes (Month/Day)				
Tomn (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/02	09/08	09/12	09/15	09/18	09/20	09/22	09/25	09/28
32	09/13	09/18	09/21	09/24	09/26	09/28	10/01	10/03	10/07
28	09/23	09/27	09/30	10/02	10/04	10/06	10/09	10/13	10/18
24	10/01	10/04	10/07	10/10	10/13	10/16	10/19	10/24	10/29
20	10/08	10/13	10/17	10/20	10/24	10/27	10/31	11/02	11/07
16	10/16	10/22	10/27	10/30	11/01	11/04	11/06	11/10	11/15
				Freeze F	ree Period				
Tomp (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	138	132	127	123	120	116	111	106	98
32	156	151	147	143	139	136	132	127	120
28	176	169	164	161	157	153	150	145	138
24	195	188	183	179	175	171	167	162	156
20	212	207	202	198	194	190	185	181	174

208

205

201

195

189

212

216

220

226

blank: missing or insufficient data

16

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Generated on 01/31/2019

Current Location: Elev: 1310 ft. Lat: 46.6448° N Lon: -88.4812° W Station: ALBERTA FORD FOR CEN, MI US USC00200089

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	06/14	06/06	06/02	05/30	05/27	05/24	05/20	05/14	05/06
28	06/01	05/27	05/22	05/18	05/14	05/09	05/04	04/30	04/25
24	05/21	05/14	05/08	05/03	04/30	04/27	04/23	04/20	04/15
20	05/07	05/01	04/27	04/23	04/20	04/17	04/14	04/10	04/05
16	04/27	04/22	04/18	04/15	04/12	04/09	04/06	04/03	03/30
				Fall Freeze Da	tes (Month/Day)				
Tomp (F)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	09/11	09/18	09/21	09/24	09/27	10/01	10/03	10/05	10/10
28	09/23	09/29	10/02	10/05	10/07	10/10	10/14	10/17	10/23
24	10/05	10/10	10/14	10/17	10/21	10/25	10/28	11/01	11/05
20	10/18	10/23	10/27	10/30	11/02	11/04	11/08	11/12	11/17
16	10/29	11/02	11/05	11/09	11/12	11/14	11/18	11/21	11/25
	1			Freeze F	ree Period				
Temp (F)		_		Probability of longe	er than indicated freeze	e free period (Days)			
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	120	112	106	100	95	89	82	74	62
32	145	137	131	127	122	118	113	108	99
28	170	162	156	151	146	141	136	130	123
24	194	186	181	176	171	167	162	156	148
20	215	208	203	199	194	190	185	179	171
16	233	226	221	217	213	209	205	199	192

<sup>\*</sup> 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

blank: missing or insufficient data

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1795 ft. Lat: 41.6854° N Lon: -98.0083° W

Station: ALBION, NE US USC00250070

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

ation: ALBION, NE U				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomn (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/24	05/19	05/15	05/12	05/09	05/06	05/03	05/01	04/27
32	05/13	05/08	05/05	05/02	04/30	04/28	04/26	04/23	04/19
28	05/03	04/30	04/27	04/24	04/22	04/19	04/17	04/14	04/10
24	04/26	04/21	04/18	04/15	04/13	04/10	04/08	04/05	04/01
20	04/17	04/12	04/10	04/07	04/04	04/02	03/31	03/26	03/20
16	04/10	04/06	04/02	03/31	03/27	03/23	03/19	03/15	03/09
				Fall Freeze Dat	es (Month/Day)				
Таши (Г)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/14	09/18	09/20	09/22	09/25	09/27	09/30	10/02	10/06
32	09/20	09/24	09/27	09/30	10/02	10/05	10/07	10/11	10/15
28	09/27	10/01	10/05	10/08	10/12	10/15	10/18	10/21	10/25
24	10/06	10/12	10/16	10/20	10/22	10/25	10/28	10/31	11/05
20	10/15	10/22	10/25	10/29	11/01	11/03	11/06	11/10	11/15
16	10/23	10/30	11/02	11/05	11/09	11/12	11/16	11/20	11/26
				Freeze Fr	ee Period				
Town (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	153	148	144	140	137	133	130	125	119
32	171	165	161	157	153	150	146	142	136
28	191	185	180	175	172	168	164	159	153
24	212	205	200	196	192	188	184	178	171
20	231	224	219	214	210	206	202	197	190
16	250	242	236	231	227	223	218	213	206

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service Current Location: Elev: 2220 ft. Lat: 34.8927° N Lon: -117.0219° W

151 Patton Avenue Asheville, North Carolina 28801

National Centers for Environmental Information

Generated on 01/31/2019

Station: BARSTOW, CA US USC00040521

National Oceanic & Atmospheric Administration

				Freez	e Data				
<u>,                                      </u>				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/23	04/13	04/06	04/01	03/28	03/22	03/17	03/09	02/28
32	04/01	03/22	03/15	03/08	03/01	02/24	02/17	02/11	02/03
28	03/08	02/25	02/16	02/10	02/04	01/31	01/25	01/18	01/08
24	02/12	02/03	01/27	01/19	01/14	01/08	01/03	12/30	12/22
20	01/30	01/16	01/08	01/04	01/01	12/29	12/25	12/19	12/11
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Da	tes (Month/Day)				
Tamm (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/30	11/04	11/07	11/10	11/13	11/15	11/18	11/21	11/26
32	11/11	11/15	11/18	11/22	11/25	11/28	12/01	12/04	12/08
28	11/22	11/27	12/01	12/03	12/07	12/10	12/14	12/19	12/27
24	12/01	12/07	12/12	12/17	12/22	12/27	01/01	01/08	01/20
20	12/05	12/11	12/16	12/22	12/27	01/01	01/04	01/10	01/22
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze F	ree Period				
Tamm (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	260	250	243	236	231	225	218	211	200
32	296	287	280	274	267	260	253	245	234
28	335	326	318	311	305	299	292	283	271
24	365	362	355	349	343	336	330	322	309
20	365	365	365	365	365	365	362	353	341
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 7533 ft. Lat: 37.4389° N Lon: -105.8613° W Station: ALAMOSA SAN LUIS VALLEY REGIONAL AIRPORT, CO US USW00023061 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)	_	
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	06/24	06/18	06/14	06/11	06/08	06/05	06/02	05/31	05/25
28	06/08	06/03	05/31	05/27	05/24	05/21	05/17	05/14	05/09
24	05/26	05/20	05/16	05/12	05/09	05/06	05/04	05/01	04/28
20	05/13	05/08	05/04	05/02	04/30	04/27	04/24	04/21	04/16
16	05/02	04/28	04/24	04/21	04/18	04/15	04/12	04/08	04/04
				Fall Freeze Da	tes (Month/Day)				
Tomp (E)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	09/03	09/07	09/10	09/13	09/15	09/17	09/19	09/22	09/25
28	09/13	09/17	09/19	09/22	09/24	09/26	09/28	10/01	10/03
24	09/20	09/24	09/27	09/29	10/01	10/03	10/05	10/07	10/11
20	09/26	10/01	10/03	10/06	10/08	10/11	10/13	10/16	10/20
16	10/04	10/09	10/13	10/16	10/18	10/20	10/23	10/27	10/31
				Freeze F	ree Period				
Town (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	89	83	79	75	70	66	61	55	45
32	116	110	105	101	98	94	90	85	78
28	140	134	129	126	122	118	114	108	100
24	159	154	150	147	143	140	136	131	124
20	179	173	168	164	161	158	154	150	144
16	201	194	190	186	182	178	174	169	162

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 3550 ft. Lat: 36.9950° N Lon: -116.7188° W

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: BEATTY 8 N. NV US USC00260718

	NV US USCUU260718			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/14	05/06	05/02	04/30	04/27	04/23	04/19	04/15	04/08
32	04/29	04/23	04/18	04/14	04/10	04/07	04/02	03/28	03/19
28	04/16	04/09	04/03	03/29	03/23	03/17	03/11	03/04	02/25
24	04/02	03/20	03/12	03/05	02/28	02/22	02/16	02/10	02/02
20	03/07	02/25	02/17	02/11	02/05	02/01	01/25	01/15	01/03
16	02/16	02/07	02/01	01/24	01/16	01/09	01/03	12/29	12/17
				Fall Freeze Da	es (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/09	10/13	10/16	10/19	10/22	10/25	10/28	11/01	11/05
32	10/17	10/23	10/27	10/30	11/01	11/05	11/08	11/12	11/17
28	10/28	11/02	11/07	11/11	11/14	11/17	11/20	11/24	11/29
24	11/08	11/15	11/20	11/23	11/27	12/01	12/03	12/07	12/13
20	11/22	11/29	12/02	12/06	12/10	12/14	12/19	12/24	01/01
16	12/02	12/10	12/16	12/22	12/27	01/01	01/07	01/17	01/31
				Freeze F	ee Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	203	195	189	184	180	175	171	165	156
32	232	223	217	212	207	202	197	191	183
28	266	256	248	242	235	229	223	216	207
24	302	291	284	278	271	265	257	248	234
20	344	333	324	316	309	302	295	286	273
16	365	365	362	355	347	341	333	325	312

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Summary of Annual Normals 1981-2010

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 5276 ft. Lat: 39.2774° N Lon: -120.7102° W

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: BLUE CANYON AIRPORT, CA US USW00023225

	•			Free	ze Data				
				Spring Freeze D	Dates (Month/Day)				
Town (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/06	06/01	05/29	05/24	05/17	05/13	05/07	05/01	04/26
32	05/28	05/17	05/10	05/04	04/30	04/27	04/23	04/16	04/06
28	05/07	04/30	04/25	04/20	04/14	04/08	03/31	03/24	03/11
24	04/21	04/11	04/02	03/27	03/18	03/09	02/27	02/13	01/23
20	04/01	03/18	03/04	02/21	02/10	01/29	01/14	01/04	12/24
16	02/25	02/10	01/31	01/21	01/09	01/04	12/31	12/23	12/13
				Fall Freeze Da	ites (Month/Day)				
Tamm (F)				Probability of earlier of	date in fall (beginning A	Aug 1) than indicated(*	')		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/28	10/05	10/12	10/17	10/22	10/27	11/01	11/06	11/12
32	10/10	10/20	10/28	11/01	11/06	11/10	11/15	11/20	11/29
28	11/01	11/08	11/14	11/19	11/23	11/27	12/03	12/09	12/20
24	11/18	11/26	12/01	12/06	12/11	12/18	12/25	01/02	01/20
20	12/01	12/09	12/16	12/24	12/30	01/04	01/15	01/29	02/21
16	12/09	12/16	12/23	12/30	01/03	01/09	01/20	01/31	02/15
				Freeze F	ree Period				
Town (F)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	189	178	170	163	157	151	144	136	125
32	223	211	203	195	189	182	175	166	154
28	269	254	243	235	227	220	211	202	189
24	329	309	295	283	274	264	254	243	229
20	365	365	354	341	331	319	305	289	271
16	365	365	365	365	365	365	359	345	329

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service Current Location: Elev: 1416 ft. Lat: 45.8679° N Lon: -95.3941° W

Station: ALEXANDRIA MUNICIPAL AIRPORT, MN US USW00014910

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

		11, MIN 03 03W000143		Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*)			
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/28	05/23	05/19	05/15	05/12	05/09	05/06	05/03	04/29
32	05/16	05/11	05/08	05/04	05/02	04/30	04/27	04/24	04/19
28	05/06	05/01	04/28	04/25	04/23	04/20	04/17	04/14	04/09
24	04/26	04/22	04/18	04/15	04/13	04/10	04/08	04/05	04/01
20	04/17	04/13	04/10	04/07	04/05	04/03	04/01	03/29	03/23
16	04/11	04/07	04/04	04/02	03/31	03/29	03/25	03/21	03/16
				Fall Freeze Da	tes (Month/Day)				
Tomp (F)				Probability of earlier of	late in fall (beginning A	Aug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/17	09/20	09/22	09/25	09/27	09/29	10/01	10/04	10/07
32	09/23	09/28	09/30	10/02	10/05	10/07	10/09	10/13	10/17
28	10/01	10/05	10/08	10/11	10/14	10/17	10/20	10/23	10/27
24	10/10	10/15	10/18	10/22	10/25	10/27	10/30	11/02	11/07
20	10/20	10/26	10/29	11/01	11/03	11/06	11/09	11/12	11/16
16	10/30	11/02	11/06	11/08	11/11	11/14	11/16	11/20	11/24
				Freeze F	ree Period				
Temp (F)				Probability of long	er than indicated freez	e free period (Days)			
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	153	148	144	140	137	133	129	125	119
32	171	166	161	158	155	151	147	143	137
28	192	186	181	177	173	170	166	161	155
24	212	206	202	197	194	190	186	181	175
20	230	223	219	215	211	208	204	200	193
16	244	238	233	229	226	222	218	214	208

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

ational Environmental Satellite, Data, and information Service

Current Location: Elev: 5575 ft. Lat: 39.3886° N Lon: -120.0936° W

Station: BOCA, CA US USC00040931

#### Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

tation: BOCA, CA US	3 00000040301			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tamm (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
24	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
20	06/02	05/27	05/20	05/15	05/11	05/06	05/01	04/28	04/22
16	05/11	05/04	04/30	04/25	04/22	04/18	04/12	04/08	04/01
				Fall Freeze Dat	es (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
28	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
24	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
20	09/17	09/23	09/27	10/01	10/03	10/07	10/11	10/15	10/21
16	10/02	10/08	10/14	10/18	10/21	10/24	10/28	11/01	11/08
				Freeze Fr	ee Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	17	15	13	12	11	10	9	8	7
32	37	30	26	23	20	18	17	15	13
28	79	69	62	55	49	44	38	33	27
24	127	118	110	104	98	91	84	76	63
20	171	162	155	149	144	138	131	124	114
16	209	200	193	187	182	177	171	165	155

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

ational Environmental Satellite, Data, and information Service

Current Location: Elev: 4700 ft. Lat: 40.5903° N Lon: -116.4749° W

Station: BEOWAWE, NV US USC00260795

Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

,	17 03 03000200793			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	06/16	06/11	06/06	06/03	06/01	05/29	05/25	05/21	05/15
28	06/04	05/30	05/24	05/20	05/17	05/14	05/10	05/05	04/30
24	05/19	05/14	05/10	05/06	05/03	04/30	04/27	04/23	04/17
20	05/09	05/03	04/29	04/24	04/20	04/16	04/11	04/05	03/28
16	04/27	04/17	04/09	04/03	03/29	03/21	03/13	03/05	02/24
				Fall Freeze Da	tes (Month/Day)				
Town (E)			I	Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	09/02	09/08	09/11	09/14	09/17	09/20	09/22	09/26	10/01
28	09/12	09/17	09/21	09/24	09/26	09/29	10/02	10/04	10/08
24	09/23	09/28	10/01	10/03	10/06	10/08	10/11	10/15	10/20
20	10/03	10/07	10/11	10/14	10/17	10/20	10/24	10/28	11/02
16	10/11	10/18	10/22	10/27	10/30	11/02	11/06	11/12	11/19
				Freeze F	ree Period				
Town (E)				Probability of longe	er than indicated freeze	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	103	97	92	87	82	78	72	65	55
32	129	121	116	112	107	103	99	93	85
28	152	145	140	136	132	127	122	116	108
24	177	169	164	160	155	151	147	141	134
20	209	199	191	186	180	175	169	164	155
16	254	242	233	225	217	210	203	194	182

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Generated on 01/31/2019

Current Location: Elev: 57 ft. Lat: 39.4716° N Lon: -76.1697° W Station: ABERDEEN PHILLIPS FIELD, MD US USW00013701

National Environmental Satellite, Data, and Information Service

	THEELF 3 TIEED, MID C			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Town (E)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/12	05/05	04/30	04/27	04/23	04/19	04/16	04/12	04/07
32	04/25	04/19	04/14	04/11	04/08	04/05	04/02	03/31	03/27
28	04/10	04/05	04/02	03/31	03/29	03/25	03/22	03/19	03/14
24	04/01	03/28	03/24	03/21	03/18	03/15	03/12	03/08	03/04
20	03/22	03/18	03/14	03/11	03/08	03/05	03/01	02/25	02/18
16	03/15	03/09	03/04	02/28	02/25	02/20	02/14	02/09	02/02
				Fall Freeze Dat	tes (Month/Day)				
T (F)				Probability of earlier d	ate in fall (beginning A	Aug 1) than indicated(*	·)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/03	10/06	10/10	10/13	10/16	10/18	10/22	10/26	11/01
32	10/10	10/15	10/20	10/23	10/27	10/30	11/02	11/06	11/11
28	10/21	10/27	11/01	11/05	11/09	11/12	11/16	11/21	11/28
24	11/04	11/12	11/17	11/21	11/25	11/29	12/02	12/06	12/14
20	11/21	11/29	12/02	12/06	12/10	12/14	12/19	12/24	12/30
16	12/04	12/10	12/15	12/21	12/25	12/29	01/02	01/08	01/18
				Freeze Fr	ree Period				
T (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	197	189	184	179	175	170	166	160	152
32	221	214	209	204	200	195	191	185	177
28	247	239	234	229	225	221	216	210	202
24	273	265	260	255	250	246	240	234	226
20	300	292	286	281	276	270	265	259	251
16	326	317	310	305	300	295	290	283	275

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 2090 ft. Lat: 37.0919° N Lon: -119.5128° W

tion: AURERRY 2 NW CA US USCO0040379

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Temp (F)  36 32 28 24 20 16	.10 05/14 05/01 04/05 02/21 02/01 -666	.20 05/08 04/23 03/21 02/04 01/12 -666	.30 05/02 04/15 03/09 01/28 01/04 -666	Spring Freeze Da Probability of later date  .40  04/29  04/08  02/26  01/19  12/31  -666	ates (Month/Day)	.60 04/20 03/24 02/02 01/05 12/24	.70 04/14 03/14 01/26 12/31	.80 04/07 03/02 01/16 12/26	.90 03/26 02/14 01/01 12/16
36 32 28 24 20	05/14 05/01 04/05 02/21 02/01	05/08 04/23 03/21 02/04 01/12	.30 05/02 04/15 03/09 01/28 01/04	.40 .40 .04/29 .04/08 .02/26 .01/19 .12/31	e in spring (through J .50 04/24 03/31 02/12 01/12	.60 04/20 03/24 02/02 01/05	04/14 03/14 01/26 12/31	04/07 03/02 01/16	03/26 02/14 01/01
36 32 28 24 20	05/14 05/01 04/05 02/21 02/01	05/08 04/23 03/21 02/04 01/12	.30 05/02 04/15 03/09 01/28 01/04	.40 04/29 04/08 02/26 01/19 12/31	.50 04/24 03/31 02/12 01/12	.60 04/20 03/24 02/02 01/05	04/14 03/14 01/26 12/31	04/07 03/02 01/16	03/26 02/14 01/01
36 32 28 24 20	05/14 05/01 04/05 02/21 02/01	05/08 04/23 03/21 02/04 01/12	05/02 04/15 03/09 01/28 01/04	04/29 04/08 02/26 01/19 12/31	04/24 03/31 02/12 01/12	04/20 03/24 02/02 01/05	04/14 03/14 01/26 12/31	04/07 03/02 01/16	03/26 02/14 01/01
32 28 24 20	05/01 04/05 02/21 02/01	04/23 03/21 02/04 01/12	04/15 03/09 01/28 01/04	04/08 02/26 01/19 12/31	03/31 02/12 01/12	03/24 02/02 01/05	03/14 01/26 12/31	03/02 01/16	02/14 01/01
28 24 20	04/05 02/21 02/01	03/21 02/04 01/12	03/09 01/28 01/04	02/26 01/19 12/31	02/12 01/12	02/02 01/05	01/26 12/31	01/16	01/01
24 20	02/21 02/01	02/04 01/12	01/28 01/04	01/19 12/31	01/12	01/05	12/31		
20	02/01	01/12	01/04	12/31				12/26	12/16
					12/28	12/24			
16	-666	-666	-666	-666		12/24	12/20	12/15	12/11
					-666	-666	-666	-666	-666
				Fall Freeze Date	es (Month/Day)				
T (F)			F	Probability of earlier da	ate in fall (beginning A	ug 1) than indicated(*)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/26	11/03	11/07	11/11	11/14	11/17	11/21	11/24	11/30
32	11/11	11/17	11/21	11/25	11/29	12/02	12/06	12/10	12/17
28	11/25	12/01	12/07	12/11	12/16	12/21	12/26	01/01	01/13
24	12/07	12/14	12/21	12/27	12/31	01/04	01/11	01/21	02/04
20	12/09	12/13	12/17	12/22	12/26	12/29	01/01	01/10	02/01
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
•	<u>.</u>			Freeze Fr	ee Period		<u> </u>		
				Probability of longe	r than indicated freeze	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	238	226	218	211	205	199	193	186	177
32	290	275	263	253	245	237	228	219	208
28	350	337	327	317	307	296	284	269	253
24	365	365	365	365	362	355	347	336	324
20	365	365	365	365	365	365	365	365	362
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Generated on 01/31/2019

Station: ALPINE, CA US USC00040136

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1695 ft. Lat: 32.8358° N Lon: -116.7774° W

dion. ALFINE, CA O				Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/09	03/31	03/22	03/13	03/03	02/25	02/17	02/04	01/16
32	03/17	03/01	02/21	02/11	02/01	01/21	01/06	12/30	12/19
28	03/06	02/26	02/20	02/09	01/31	01/22	01/03	12/27	12/19
24	-666	-666	-666	-666	-666	-666	-666	-666	-666
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	tes (Month/Day)				
Town (E)				Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	11/24	12/01	12/06	12/11	12/15	12/20	12/25	01/01	01/15
32	12/09	12/16	12/25	12/29	01/04	01/15	01/30	02/08	02/26
28	12/17	12/25	12/31	01/13	01/27	02/03	02/10	02/22	03/04
24	-666	-666	-666	-666	-666	-666	-666	-666	-666
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ree Period				
Town (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	336	319	307	297	288	279	270	260	247
32	365	365	365	363	354	341	328	312	294
28	365	365	365	365	365	365	365	365	338
24	365	365	365	365	365	365	365	365	365
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Oceanic & Atmospheric Administration

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 2010 ft. Lat: 30.3519° N Lon: -101.2519° W

Station: ACTON RANCH, TX US USC00410040

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	CII, 1X 03 03C004100			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	te in spring (through J	ul 31) than indicated(*	)		
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	04/23	04/19	04/15	04/11	04/08	04/05	04/02	03/29	03/21
32	04/15	04/09	04/05	04/02	03/30	03/25	03/20	03/15	03/07
28	04/05	03/31	03/24	03/19	03/14	03/09	03/04	02/28	02/20
24	03/22	03/14	03/08	03/02	02/26	02/21	02/16	02/10	02/01
20	03/08	02/28	02/21	02/14	02/08	02/03	01/29	01/22	01/08
16	02/25	02/11	02/04	01/30	01/24	01/17	01/08	12/31	12/21
				Fall Freeze Da	tes (Month/Day)				
Temp (F)				Probability of earlier d	late in fall (beginning A	ug 1) than indicated(	)		
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/15	10/21	10/25	10/28	10/31	11/03	11/05	11/09	11/13
32	10/24	10/30	11/02	11/05	11/08	11/11	11/14	11/18	11/22
28	11/01	11/07	11/12	11/15	11/18	11/22	11/25	11/30	12/05
24	11/13	11/18	11/23	11/27	12/01	12/03	12/07	12/12	12/20
20	11/23	11/30	12/03	12/07	12/11	12/17	12/23	12/29	01/08
16	12/02	12/07	12/12	12/18	12/24	12/29	01/03	01/13	01/26
				Freeze F	ree Period				
Town (E)				Probability of long	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	227	219	214	209	205	201	197	191	184
32	250	241	235	230	225	220	215	209	201
28	277	268	261	255	250	244	238	231	222
24	308	298	290	284	278	272	266	258	248
20	341	330	321	313	306	300	293	285	274
16	365	362	352	344	337	331	323	313	301

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service Generated on 01/31/2019 National Centers for Environmental Information Asheville, North Carolina 28801

151 Patton Avenue

Current Location: Elev: 2450 ft. Lat: 36.5716° N Lon: -116.4619° W Station: AMARGOSA FARMS GAREY, NV US USC00260150

Freeze Data Spring Freeze Dates (Month/Day) Probability of later date in spring (through Jul 31) than indicated(\*) Temp (F) .10 .20 .30 .40 .50 .70 .60 .80 .90 05/01 04/24 04/19 04/15 04/12 04/09 04/06 04/01 03/24 36 03/14 32 04/13 04/08 04/03 03/31 03/26 03/20 03/08 02/28 28 03/28 03/19 03/12 03/06 03/01 02/25 02/19 02/12 02/03 24 03/05 02/25 02/18 02/12 02/06 02/02 01/28 01/19 01/10 20 02/17 02/07 02/01 01/27 01/19 01/12 01/07 12/31 12/19 16 02/07 02/01 01/10 01/04 12/24 01/25 01/16 12/31 12/16 Fall Freeze Dates (Month/Dav)

				I all I leeze Da	les (Wollingbay)				
Tamp (F)				Probability of earlier d	ate in fall (beginning	Aug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/18	10/23	10/27	10/30	11/02	11/05	11/08	11/12	11/16
32	10/28	11/02	11/06	11/10	11/13	11/16	11/18	11/22	11/27
28	11/07	11/13	11/17	11/20	11/24	11/27	12/01	12/04	12/09
24	11/18	11/24	11/29	12/02	12/05	12/09	12/12	12/17	12/24
20	11/30	12/06	12/10	12/15	12/20	12/26	01/01	01/08	01/23
16	12/10	12/17	12/23	12/29	01/02	01/08	01/16	01/26	02/02
				Freeze Fi	ree Period				

Тата (Г)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	227	219	213	208	204	199	194	188	181
32	262	252	245	238	233	227	222	216	207
28	296	286	279	273	267	261	255	247	237
24	334	322	315	307	301	295	288	280	270
20	365	360	351	344	337	332	324	315	303
16	365	365	365	365	365	365	360	350	336
		•					•	•	

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Summary of Annual Normals 1981-2010 Generated on 01/31/2019 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Current Location: Elev: 907 ft. Lat: 47.2991° N Lon: -96.5161° W

National Environmental Satellite, Data, and Information Service

Station: ADA, MN US USC00210018

station: 71571, mit CC				Freez	ze Data				
				Spring Freeze D	Dates (Month/Day)				
Temp (F)				Probability of later da	ite in spring (through J	ul 31) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	06/05	05/31	05/28	05/24	05/20	05/17	05/14	05/10	05/05
32	05/25	05/20	05/16	05/13	05/10	05/06	05/03	04/30	04/27
28	05/17	05/12	05/07	05/04	05/01	04/29	04/26	04/22	04/16
24	05/08	05/02	04/30	04/26	04/23	04/19	04/15	04/10	04/05
20	04/29	04/23	04/18	04/14	04/10	04/07	04/05	04/02	03/29
16	04/18	04/11	04/08	04/05	04/03	04/01	03/29	03/25	03/20
				Fall Freeze Da	ites (Month/Day)				
Town (F)				Probability of earlier of	date in fall (beginning A	ug 1) than indicated(	*)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/03	09/09	09/12	09/15	09/17	09/20	09/22	09/25	09/29
32	09/13	09/18	09/21	09/23	09/26	09/28	10/01	10/03	10/08
28	09/21	09/25	09/29	10/01	10/04	10/06	10/09	10/13	10/20
24	09/29	10/03	10/07	10/10	10/14	10/17	10/21	10/26	10/31
20	10/07	10/13	10/17	10/21	10/25	10/29	11/01	11/04	11/10
16	10/17	10/23	10/28	11/01	11/03	11/06	11/09	11/13	11/18
				Freeze F	ree Period				
Temp (F)				Probability of long	er than indicated freez	e free period (Days)			
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	137	130	126	122	118	114	110	105	97
32	155	149	145	141	137	133	129	125	118
28	175	167	162	158	154	150	146	141	134
24	195	188	182	177	173	168	163	158	151
20	215	208	203	198	194	189	184	178	170
16	232	225	220	216	212	208	203	198	191

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 440 ft. Lat: 43.2722° N Lon: -78.1664° W

Station: ALBION 2 NE. NY US USC00300055

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	NY US USC00300055			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Temp (F)				Probability of later da	e in spring (through J	ul 31) than indicated(*	)		
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/28	05/23	05/19	05/15	05/12	05/09	05/06	05/02	04/28
32	05/14	05/09	05/05	05/02	04/30	04/27	04/24	04/21	04/16
28	05/01	04/26	04/22	04/20	04/17	04/13	04/10	04/07	04/02
24	04/19	04/14	04/10	04/07	04/04	04/02	03/31	03/28	03/22
20	04/08	04/04	04/01	03/30	03/27	03/24	03/21	03/17	03/13
16	03/31	03/27	03/23	03/21	03/18	03/15	03/12	03/09	03/05
				Fall Freeze Da	tes (Month/Day)				
Tamm (F)				Probability of earlier d	ate in fall (beginning A	lug 1) than indicated(*	")		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	09/26	09/30	10/02	10/05	10/07	10/09	10/12	10/16	10/20
32	10/05	10/09	10/13	10/16	10/19	10/22	10/26	10/30	11/03
28	10/16	10/22	10/26	10/30	11/01	11/04	11/07	11/11	11/15
24	10/31	11/05	11/08	11/12	11/14	11/17	11/21	11/25	11/30
20	11/13	11/18	11/21	11/25	11/28	12/01	12/04	12/07	12/13
16	11/23	11/29	12/02	12/05	12/08	12/12	12/15	12/19	12/24
				Freeze F	ree Period				
Tamm (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	159	154	150	146	142	138	133	127
32	191	184	179	175	171	167	163	158	151
28	218	211	206	202	197	194	189	184	177
24	243	236	231	227	223	219	215	210	203
20	265	259	253	249	245	241	237	232	225
16	285	278	273	269	265	261	256	251	244

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

Summary of Annual Normals 1981-2010 Generated on 01/31/2019 National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Current Location: Elev: 200 ft. Lat: 40.9781° N Lon: -124.1086° W Station: ARCATA EUREKA AIRPORT, CA US USW00024283

	LINA AINFONT, CA O			Freez	e Data				
				Spring Freeze D	ates (Month/Day)				
Tomp (E)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)	_	
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	05/23	05/16	05/09	05/04	04/30	04/26	04/20	04/13	04/04
32	04/24	04/14	04/06	03/31	03/25	03/17	03/06	02/23	02/05
28	03/12	02/25	02/15	02/05	01/30	01/22	01/11	12/31	12/19
24	02/08	01/30	01/21	01/09	01/03	12/31	12/26	12/19	12/12
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Fall Freeze Dat	tes (Month/Day)				
Town (E)			I	Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/04	10/13	10/18	10/24	10/29	11/01	11/06	11/13	11/22
32	10/29	11/07	11/15	11/23	12/01	12/04	12/09	12/16	01/02
28	11/24	12/04	12/10	12/16	12/24	01/01	01/09	01/23	02/08
24	12/07	12/13	12/19	12/26	12/31	01/05	01/13	01/26	02/01
20	-666	-666	-666	-666	-666	-666	-666	-666	-666
16	-666	-666	-666	-666	-666	-666	-666	-666	-666
				Freeze Fr	ree Period				
Town (E)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	217	205	197	189	183	176	169	160	149
32	306	285	273	262	253	243	233	222	208
28	365	365	355	344	336	328	316	305	284
24	365	365	365	365	365	365	365	365	347
20	365	365	365	365	365	365	365	365	365
16	365	365	365	365	365	365	365	365	365

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4560 ft. Lat: 42.2209° N Lon: -120.5792° W

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: BLY 4 SE, OF	K US USC00350856								
				Freez	e Data				
	T				ates (Month/Day)				
Temp (F)				Probability of later dat	e in spring (through J	ul 31) than indicated(*	)	1	1
remp (i )	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	06/28	06/22	06/18	06/15	06/12	06/09	06/05	06/01	05/25
28	06/14	06/07	06/02	05/28	05/22	05/16	05/12	05/07	05/01
24	05/20	05/11	05/07	05/03	04/30	04/28	04/24	04/19	04/12
20	04/30	04/25	04/20	04/16	04/11	04/06	04/01	03/26	03/15
16	04/13	04/04	03/29	03/21	03/13	03/06	03/01	02/22	02/13
				Fall Freeze Dat	es (Month/Day)				
T (F)			1	Probability of earlier d	ate in fall (beginning A	ug 1) than indicated(*	)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444
32	08/28	09/02	09/06	09/09	09/12	09/15	09/17	09/20	09/24
28	09/09	09/15	09/18	09/22	09/24	09/27	09/30	10/03	10/08
24	09/23	09/30	10/03	10/06	10/09	10/13	10/17	10/20	10/26
20	10/07	10/14	10/19	10/23	10/27	11/01	11/04	11/10	11/17
16	10/20	10/28	11/01	11/07	11/12	11/17	11/22	11/26	12/01
				Freeze Fr	ee Period				
Tamm (F)				Probability of longe	er than indicated freez	e free period (Days)			
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	82	75	70	66	62	57	51	45	38
32	111	103	98	93	89	85	81	75	68
28	148	141	134	128	122	116	110	103	94
24	186	177	171	167	162	157	152	145	135
20	233	222	214	207	201	195	189	182	173
16	279	267	258	251	243	236	228	219	207

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 30 ft. Lat: 37.7833° N Lon: -122.3167° W

Station: ALAMEDA NAS, CA US USW00023239

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	43, CA 03 03 00 00 00 00 00 00 00 00 00 00 00			Freez	e Data						
				Spring Freeze D	ates (Month/Day)						
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)										
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	01/31	01/24	01/11	01/05	01/01	12/30	12/25	12/20	12/14		
32	-666	-666	-666	-666	-666	-666	-666	-666	-666		
28	-666	-666	-666	-666	-666	-666	-666	-666	-666		
24	-666	-666	-666	-666	-666	-666	-666	-666	-666		
20	-666	-666	-666	-666	-666	-666	-666	-666	-666		
16	-666	-666	-666	-666	-666	-666	-666	-666	-666		
				Fall Freeze Dat	es (Month/Day)						
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)										
remp (r)	.10	.20	.30	.40	.50	.60	.70	12/20 -666 -666 -666 -666 -666 -666 -666 -6	.90		
36	12/11	12/17	12/21	12/26	12/29	01/01	01/07	01/16	01/30		
32	-666	-666	-666	-666	-666	-666	-666	-666	-666		
28	-666	-666	-666	-666	-666	-666	-666	-666	-666		
24	-666	-666	-666	-666	-666	-666	-666	-666	-666		
20	-666	-666	-666	-666	-666	-666	-666	-666	-666		
16	-666	-666	-666	-666	-666	-666	-666	-666	-666		
				Freeze Fr	ee Period						
Temp (F)				Probability of longe	er than indicated freez	e free period (Days)					
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	365	365	365	365	365	365	365	365	353		
32	365	365	365	365	365	365	365	365	365		
28	365	365	365	365	365	365	365	365	365		
24	365	365	365	365	365	365	365	365	365		
20	365	365	365	365	365	365	365	365	365		
16	365	365	365	365	365	365	365	365	365		

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1292 ft. Lat: 38.9072° N Lon: -121.0838° W

Station: AUBURN, CA US USC00040383

## Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

ation: AUBURN, CA				Freez	e Data					
				Spring Freeze D	ates (Month/Day)					
Town (E)	Probability of later date in spring (through Jul 31) than indicated(*)									
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90	
36	04/27	04/19	04/13	04/07	04/01	03/26	03/18	03/09	02/23	
32	04/01	03/16	03/04	02/24	02/15	02/07	01/31	01/21	01/09	
28	02/19	02/05	01/30	01/20	01/11	01/05	12/31	12/27	12/18	
24	02/01	01/14	01/06	01/02	12/31	12/28	12/22	12/18	12/12	
20	-666	-666	-666	-666	-666	-666	-666	-666	-666	
16	-666	-666	-666	-666	-666	-666	-666	-666	-666	
				Fall Freeze Dat	es (Month/Day)					
T (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)									
Temp (F)	.10	.20	.30	.40	.50	.60	.70	03/09 01/21 12/27 12/18 -666 -666  -80  12/04 12/25 01/10 01/09 -666 -666  -80  214 267 328 365 365	.90	
36	11/03	11/10	11/14	11/18	11/22	11/26	12/01	12/04	12/11	
32	11/20	11/28	12/01	12/06	12/09	12/13	12/18	12/25	01/03	
28	12/06	12/11	12/16	12/21	12/25	12/30	01/02	01/10	01/25	
24	12/10	12/15	12/20	12/25	12/29	12/31	01/03	01/09	01/28	
20	-666	-666	-666	-666	-666	-666	-666	-666	-666	
16	-666	-666	-666	-666	-666	-666	-666	-666	-666	
				Freeze Fr	ee Period					
Тата (Г)				Probability of longe	er than indicated freez	e free period (Days)				
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90	
36	278	264	253	245	237	230	222	214	204	
32	338	325	315	307	298	289	279	267	251	
28	365	365	364	358	351	344	337	328	313	
24	365	365	365	365	365	365	365	365	353	
20	365	365	365	365	365	365	365	365	365	
16	365	365	365	365	365	365	365	365	365	

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 1680 ft. Lat: 43.4891° N Lon: -99.0630° W

Station: ACADEMY 2 NE. SD US USC00390043

# Summary of Annual Normals 1981-2010

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	NE, 5D 05 05C003900			Freez	e Data						
				Spring Freeze D	ates (Month/Day)						
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)										
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	05/29	05/22	05/18	05/15	05/12	05/09	05/06	05/03	04/30		
32	05/16	05/11	05/07	05/05	05/03	04/30	04/28	04/25	04/20		
28	05/06	05/02	04/30	04/26	04/24	04/21	04/18	04/14	04/10		
24	04/27	04/23	04/19	04/16	04/13	04/11	04/08	04/05	04/01		
20	04/19	04/14	04/11	04/08	04/05	04/03	03/31	03/28	03/21		
16	04/12	04/07	04/03	04/01	03/29	03/25	03/21	03/17	03/12		
				Fall Freeze Dat	tes (Month/Day)						
Tomn (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)										
Temp (F)	.10	.20	.30	.40	.50	.60	.70	05/03 04/25 04/14 04/05 03/28 03/17 .80 09/30 10/09 10/19 10/29 11/08 11/18 .80 11/18 .80 11/18	.90		
36	09/10	09/15	09/18	09/20	09/22	09/25	09/27	09/30	10/04		
32	09/17	09/21	09/25	09/28	09/30	10/03	10/05	10/09	10/13		
28	09/25	09/30	10/03	10/06	10/10	10/13	10/15	10/19	10/23		
24	10/03	10/09	10/14	10/17	10/20	10/23	10/25	10/29	11/02		
20	10/14	10/20	10/23	10/26	10/29	11/01	11/04	11/08	11/14		
16	10/23	10/29	11/01	11/04	11/07	11/10	11/14	11/18	11/23		
				Freeze Fr	ree Period						
Town (F)				Probability of longe	er than indicated freez	e free period (Days)					
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	148	142	138	134	131	127	123	118	112		
32	166	160	155	152	148	144	140	136	130		
28	187	180	175	170	166	162	158	153	146		
24	207	200	195	191	187	182	178	172	164		
20	227	219	214	210	206	202	198	192	185		
16	245	238	232	228	223	219	214	209	201		

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4405 ft. Lat: 42.9536° N Lon: -112.8253° W

Summary of Annual Normals 1981-2010 Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

Station: ABERDEEN EXPERIMENT STATION, ID US USC00100010

				Freez	e Data					
				Spring Freeze D	ates (Month/Day)					
Town (F)	Probability of later date in spring (through Jul 31) than indicated(*)									
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90	
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	
32	06/18	06/09	06/03	05/30	05/26	05/22	05/18	05/14	05/10	
28	05/21	05/17	05/13	05/10	05/08	05/05	05/03	04/30	04/25	
24	05/09	05/05	05/02	04/30	04/27	04/24	04/21	04/17	04/11	
20	04/29	04/24	04/20	04/16	04/12	04/08	04/03	03/29	03/18	
16	04/14	04/07	04/01	03/27	03/19	03/15	03/10	03/06	03/01	
				Fall Freeze Dat	es (Month/Day)					
Tamar (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)									
Temp (F)	.10	.20	.30	.40	.50	.60	.70	-4444 05/14 04/30 04/17 03/29 03/06  .80 -4444 09/21 10/03 10/17 11/01 11/17  .80 58 89 126 150 176	.90	
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	
32	08/30	09/03	09/06	09/09	09/12	09/15	09/18	09/21	09/26	
28	09/10	09/15	09/18	09/21	09/24	09/27	09/30	10/03	10/08	
24	09/21	09/26	09/30	10/03	10/05	10/09	10/12	10/17	10/21	
20	10/03	10/08	10/13	10/18	10/21	10/24	10/28	11/01	11/07	
16	10/17	10/23	10/28	11/01	11/03	11/07	11/12	11/17	11/22	
				Freeze Fr	ee Period					
Tamas (F)				Probability of longe	er than indicated freez	e free period (Days)				
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90	
36	98	90	85	80	75	70	64	58	49	
32	130	123	117	112	107	102	97	89	78	
28	158	152	147	143	139	135	131	126	119	
24	185	177	172	167	163	159	155	150	143	
20	220	211	204	198	193	188	182	176	167	
16	256	246	239	233	228	222	215	208	199	

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero

National Environmental Satellite, Data, and Information Service

Current Location: Elev: 4195 ft. Lat: 41.1936° N Lon: -120.9447° W

Station: ADIN RANGER STATION, CA US USC00040029

Generated on 01/31/2019

National Centers for Environmental Information 151 Patton Avenue Asheville, North Carolina 28801

	K STATION, CA 03 0			Freez	e Data						
				Spring Freeze D	ates (Month/Day)						
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)										
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444		
32	06/18	06/11	06/06	06/02	05/30	05/25	05/21	05/16	05/10		
28	05/31	05/23	05/17	05/13	05/09	05/05	05/01	04/27	04/20		
24	05/10	05/03	04/28	04/24	04/19	04/14	04/09	04/04	03/28		
20	04/20	04/12	04/06	04/01	03/27	03/22	03/16	03/09	03/02		
16	03/31	03/22	03/14	03/09	03/04	02/28	02/21	02/12	01/31		
				Fall Freeze Da	tes (Month/Day)						
Town (E)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)										
Temp (F)	.10	.20	.30	.40	.50	.60	.70	-4444 05/16 04/27 04/04 03/09	.90		
36	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444	-4444		
32	09/07	09/13	09/16	09/19	09/23	09/26	09/29	10/02	10/07		
28	09/20	09/26	09/30	10/03	10/06	10/09	10/14	10/18	10/24		
24	10/05	10/11	10/16	10/20	10/24	10/29	11/01	11/07	11/14		
20	10/19	10/26	11/01	11/05	11/10	11/15	11/20	11/25	12/01		
16	10/31	11/09	11/15	11/20	11/25	11/29	12/03	12/08	12/16		
				Freeze F	ree Period						
Temp (F)				Probability of long	er than indicated freez	e free period (Days)					
remp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90		
36	105	97	91	86	81	76	71	64	53		
32	138	130	124	119	114	109	103	97	89		
28	175	166	159	154	149	144	138	131	122		
24	218	208	201	194	188	183	177	170	161		
20	262	250	242	235	229	222	215	207	197		
16	303	290	281	273	266	259	252	243	231		

<sup>\*</sup> 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

<sup>-4444:</sup> year-round risk of frost-freeze

<sup>-6666:</sup> parameter undefined; insufficient occurrences to compute value

<sup>-7777:</sup> a non-zero value that would round to zero