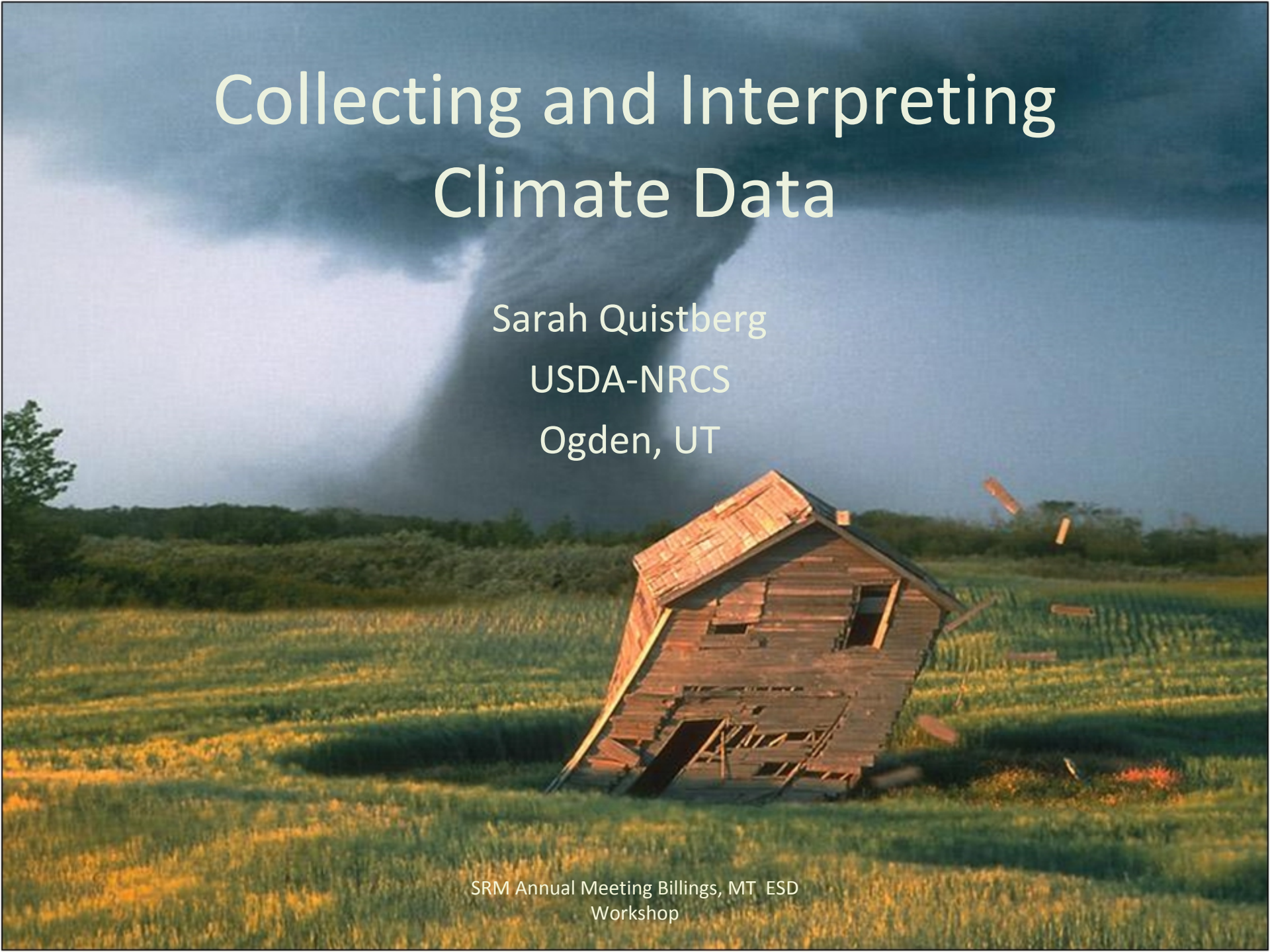
Collecting and Interpreting Climate Data

Sarah Quistberg
USDA-NRCS
Ogden, UT



SRM Annual Meeting Billings, MT ESD Workshop

Contributions

- Shane Green, USDA-NRCS State Rangeland Management Specialist, Utah
  - Created the Climate Graphing Tool
  - Available for many western states
- Michael Carpinelli, USDA-USFS Forester, Region 3, New Mexico
  - Created the Climate Summarizer spreadsheet
  - Compatible with Western Regional Climate Center data

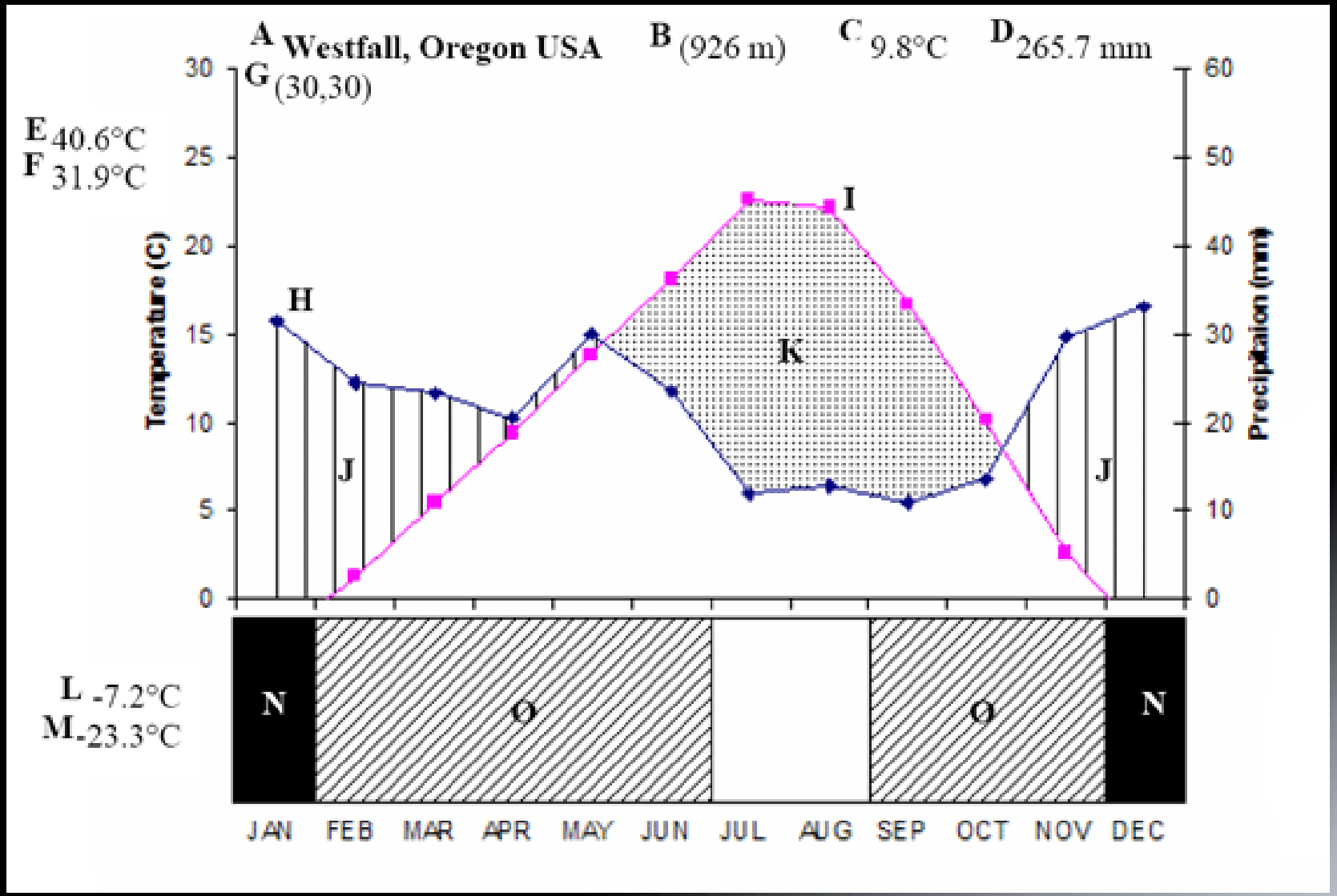
Why is climate information important?

- MLRA and LRU boundaries
- Explain differences between sites

- Plants are adapted to certain climatic influences

Interpreting Climate Data: Climate Diagrams

- Climate diagrams
  - Summaries of average climatic variables over time
  - Useful to show the relationships between soil, vegetation and climate
  - Shows when water is available for plant growth
  - Good indication of soil moisture regimes


A Westfall, Oregon USA
B (926 m)
C 9.8°C
D 265.7 mm
G (30,30)
E 40.6°C
F 31.9°C
L -7.2°C
M -23.3°C
Temperature (C)
Precipitation (mm)
H
I
J
J
K
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JAN
FEB
MAR
APR
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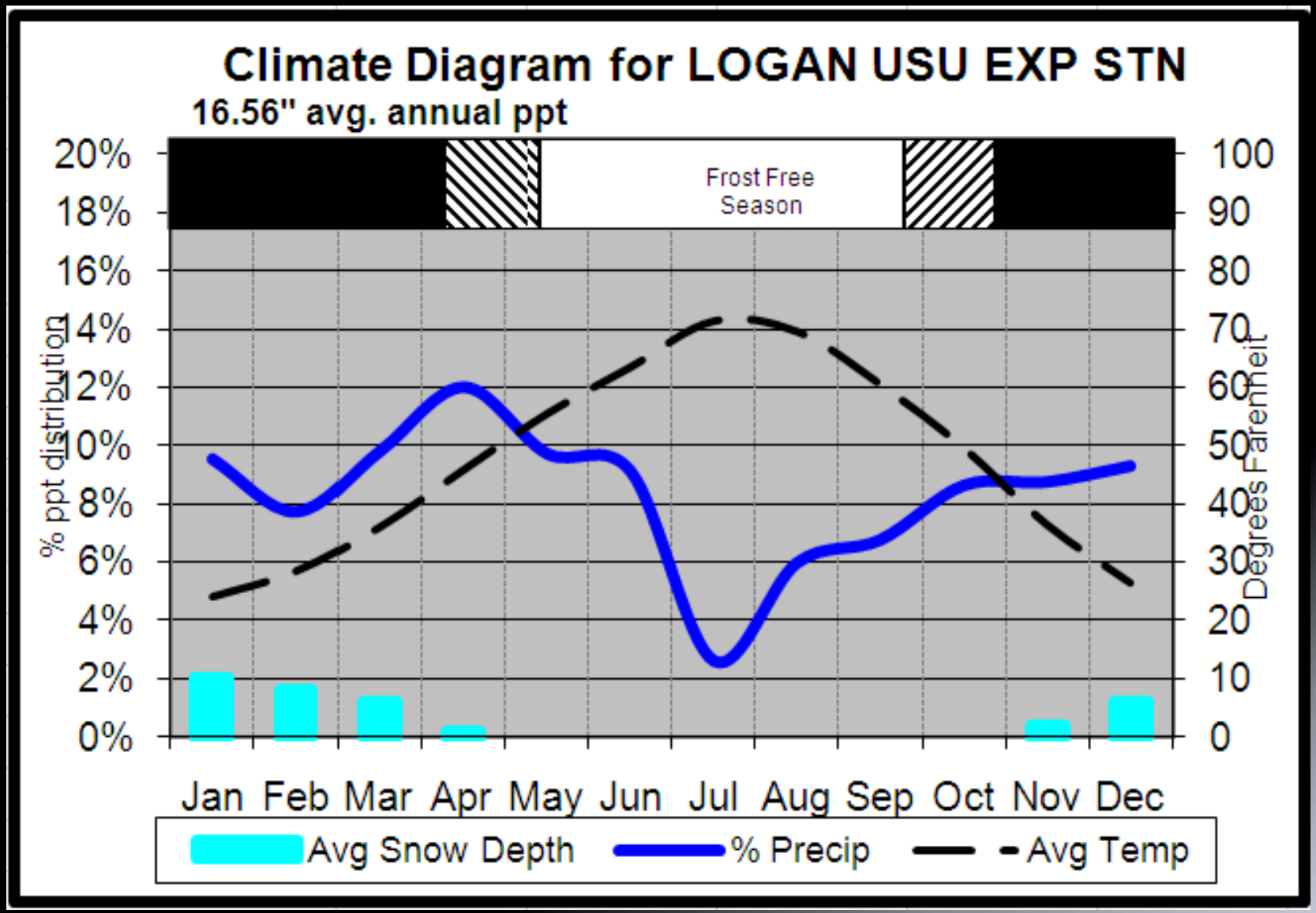
DEC


Climate Diagram for LOGAN USU EXP STN
16.56" avg. annual ppt
Frost Free Season
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
% ppt distribution
100
90
80
70
60
50
40
30
20
10
0
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp

Western Regional Climate Center

- For main page: http://www.wrcc.dri.edu/index.html
- To go to individual state climate summaries: http://www.wrcc.dri.edu/summary/climsmut.html
- Outside of the western US: http://www.ncdc.noaa.gov/oa/climate/regionalclimatecenters.html

Western Regional Climate Center - Windows Internet Explorer

File Edit View Favorites Tools Help

http://www.wrcc.dri.edu/index.html

Western Regional Climate Center

Western Regional Climate Center

Historical Climate Information
Western U.S. Historical Summaries; Precipitation Maps; Station Inventories; Wind and Evaporation Data; Coastal Water Table; State Narratives; Station Descriptions; Anomalies.

Current Observations, Forecasts and Monitoring
Nat'l Weather Service Current and Past 24-hour Reports; Snotel; Climate Prediction Center Outlooks; Satellite and Radar Imagery; SPI; Anomalies; Divisional Climate Plots; ACIS; CoCoRaHS.

WRCC Projects
El Nino & La Nina; CEMP; WET; BLM RAWS; Yucca Mtn; Current Weather Plots; NSOE; Snotel; CoCoRaHS; California Climate Data Archive; Photo Gallery; Webcam; WxCoder.

More Climate Information
Solar Radiation; Sunrise/Sunset Information (USNO); WGA data and information; Nat'l Climatic Data Center; Climate Prediction Center; CEFA; Nat'l Drought Mitigation Center.

Educational and Travel Pages
Terms; More about Weather and Climate - for teachers and kids! Climate for resorts and Nat'l parks around the West.

About the WRCC
Staff; Funding; Overview of WRCC; DRI Home Page; INTERNAL.

WRCC Supports a Three-Partner National Climate Services Program - the Partners Include:
National Climatic Data Center (NCDC), Regional Climate Centers (RCC's), and State Climate Offices.

DRI Desert Research Institute

Address:
WRCC
2215 Raggio Parkway
Reno, NV 89512
(775) 674-7010 - phone
(775) 674-7001 - fax

Hours:
Monday - Friday 8am-4pm

wrcc@dri.edu

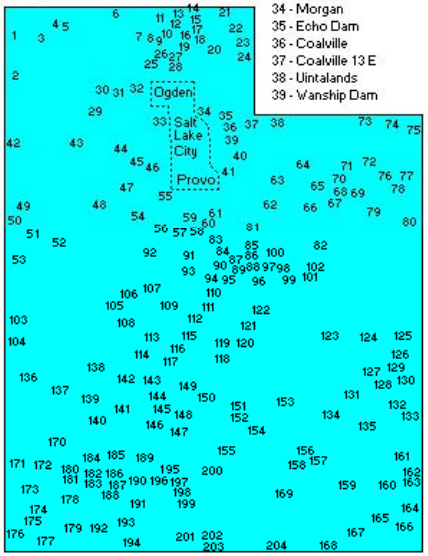
NOAA

Utah Climate Summaries

Back to: Western U.S. map | Home Page
Alphabetical Station List

- Allen's Ranch
- Alpine
- Alta
- Altamont
- Alton
- Aneth Plant
- Angle
- Antelope Island
- Antimony
- A S R Research Lab
- Arches National Park HQ
- Bear Lake State Park
- Bear River Bay
- Bear River Refuge
- Beaver
- Big Water
- Bingham Canyon
- Birdseye
- Black Rock
- Blanding
- Blowhard Mountain Radar
- Bluff
- Bonanza
- Bountiful-Val Verda
- Bothwell
- Boulder
- Brian Head
- Brigham City
- Brigham City Waste Plant
- Bryce Canyon FAA Airport
- Bryce Canyon National Park
- Bullfrog Basin
- Callao
- Callister Ranch
- Canyonlands - The Neck
- Canyonlands - The Needle
- Capital Reef National Park

1 - Grouse Creek
2 - Lucin
3 - Park Valley M. R.
4 - Rosette
5 - Park Valley
6 - Snowville
7 - Thiokol
8 - Bothwell
9 - Tremonton
10 - Garland 1NE
11 - Plymouth
12 - Cutler Dam
13 - Trenton
14 - Lewiston
15 - Richmond
16 - Logan Radio
17 - Logan Exp. Sta.
18 - Logan USU
19 - Logan 5 SW
20 - Hardware Ranch
21 - Bear Lake S. P.
22 - Laketown
23 - Randolph
24 - Woodruff
25 - Bear River Refuge
26 - Corinne
27 - Brigham City W.P.
28 - Brigham City
29 - Utah Test Range
30 - Lakeside
31 - Midlake
32 - Promontory
33 - Antelope Island
34 - Morgan
35 - Echo Dam
36 - Coalville
37 - Coalville 13 E
38 - Uintalands
39 - Wanship Dam
40 - Kamas 3 NW
41 - Heber
42 - Wendover
43 - Knolls 10 NE
44 - Callister Ranch
45 - Grantsville
46 - Tooele
47 - Johnson Pass
48 - Dugway
49 - Gold Hill
50 - Ibapah
51 - Callao
52 - Fish Spring Refuge
53 - Partoun
54 - Vernon
55 - Fairfield
56 - Eureka
57 - Elberta
58 - Santaquin
59 - Spanish Fork P.H.
60 - Payson 1 SE
61 - Payson
62 - Fruitland
63 - Hanna
64 - Moon Lake
65 - Altamont
66 - Duchesne
67 - Myton
68 - Roosevelt
69 - Fort Duchesne
70 - Neola
71 - Elkhorn Ashley R.S.
72 - Maeser 9 NW
73 - Manila
74 - Flaming Gorge
75 - Allen's Ranch
76 - Vernal
77 - Dinosaur N.M.
78 - Jensen
79 - Ouray 4 NE
80 - Bonanza
81 - Soldier Summit
82 - Nutters Ranch
83 - Birdseye
84 - Fairview 8 N
85 - Scofield Dam
86 - Scofield
87 - Scofield-Skyline
88 - Clear Creek
89 - Electric Lake UP&L
90 - Fairview
91 - Nephi
92 - Little Sahara Dunes
93 - Levan
94 - Moroni
95 - Pleasant Creek P.H.
96 - Hiawatha
97 - Price Game Farm
98 - Price Warehouses
99 - Wellington 3 E
100 - Helper Carbon UP&L
101 - Sunnyside City Ctr
102 - Sunnyside
103 - Eskdale
104 - Garrison
105 - Desert
106 - Delta
107 - Oak City
108 - Clear Lake Refuge
109- Scipio
110- Ephraim
111 - Manti
112 - Gunnison
113 - Fillmore
114 - Kanosh
115 - Salina
116 - Sigurd UP&L
117 - Richfield
118 - Emery 15 SW
119 - Salina 24 E
120 - Emery
121 - Ferron
122 - Castledale
123 - Green River
124 - Thompson
125 - Cisco
126 - Dewey
127 - Arches N.P
128 - Moab
129 - Castle Valley
130 - Castleton
131 - Canyonlands The Neck
132 - La Sal
133 - La Sal 2 SE
134 - Hans Flat R.S.
135 - Canyonlands The Needle
136 - Desert Exp. Range
137 - Wah Wah Ranch
138 - Black Rock
139 - Milford
140 - Minersville
141 - Beaver
142 - Cove Fort
143 - Fremont Indian S.P.
144 - Marysvale
145 - Piute Dam
146 - Circleville
147 - Antimony
148 - Angle
149 - Koosharem
150 - Loa
151 - Fruita
152 - Capital Reef N.P.
153 - Hanksville
154 - Sandy Ranch
155 - Boulder
156 - Hite Marina
157 - Hite R.S.
158 - Hite
159 - Natural Bridges N.M.
160 - Blanding
161 - Monticello
162 - Montezuma Creek
163 - Cedar Point
164 - Hovenweep N.M.
165 - Bluff
166 - Aneth Plant
167 - Mexican Hat
168 - Monument Valley
169 - Bullfrog Basin



170 - Lund
171 - Modena
172 - Enterprise Beryl Jct.
173 - Enterprise
174 - Veyo P.H.
175 - Gunlock P.H.
176 - Lytle Ranch
177 - St. George
178 - New Harmony
179 - La Verkin
180 - Cedar City Apt
181 - Cedar City P.H.
182 - Cedar City S.P.
183 - Cedar City 5 E
184 - Summit
185 - Parowan P.P.
186 - Brian Head
187- Cedar Breaks
188 - Blowhard Mtn.
189 - Panguitch
190 - Hatch
191 - Alton
192 - Zion N.P.
193 - Orderville
194 - Kanab
195 - Bryce Canyon Apt.
196 - Bryce Canyon N.P.
197 - Tropic
198 - Henrieville
199 - Kodachrome Basin Park
200 - Escalante
201 - Church Wells
202 - Glen Canyon City
203 - Big Water
204 - Navajo Mountain

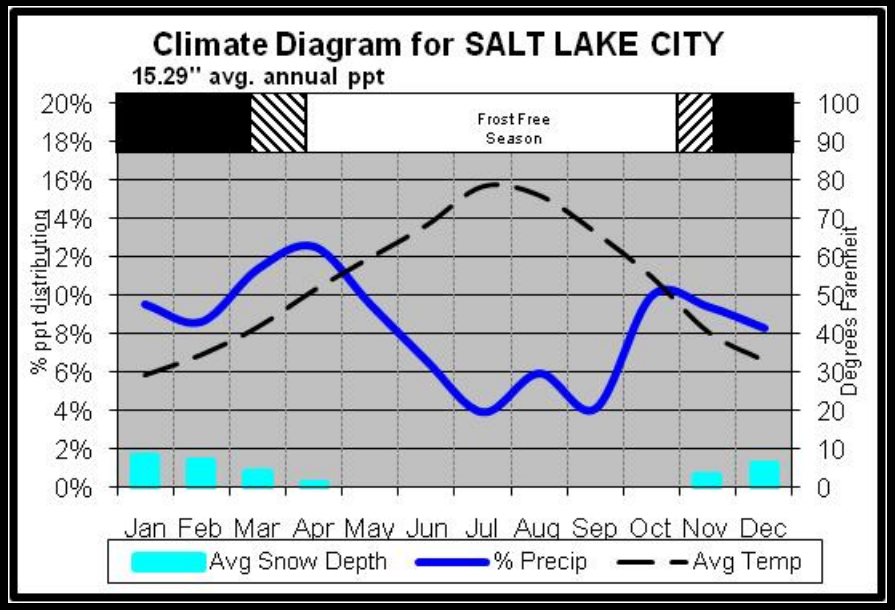
Ogden, Salt Lake City And Provo Area

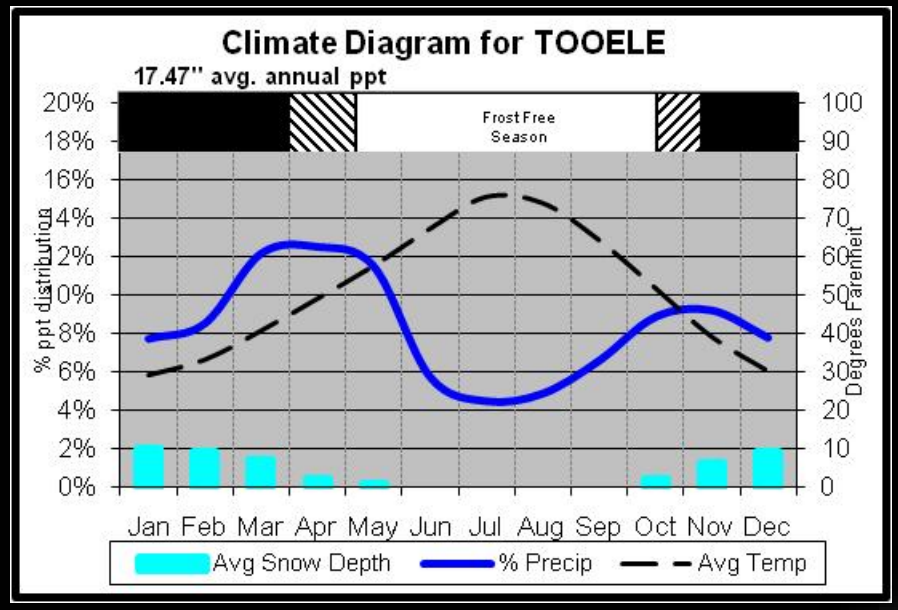
...back to Home Page.

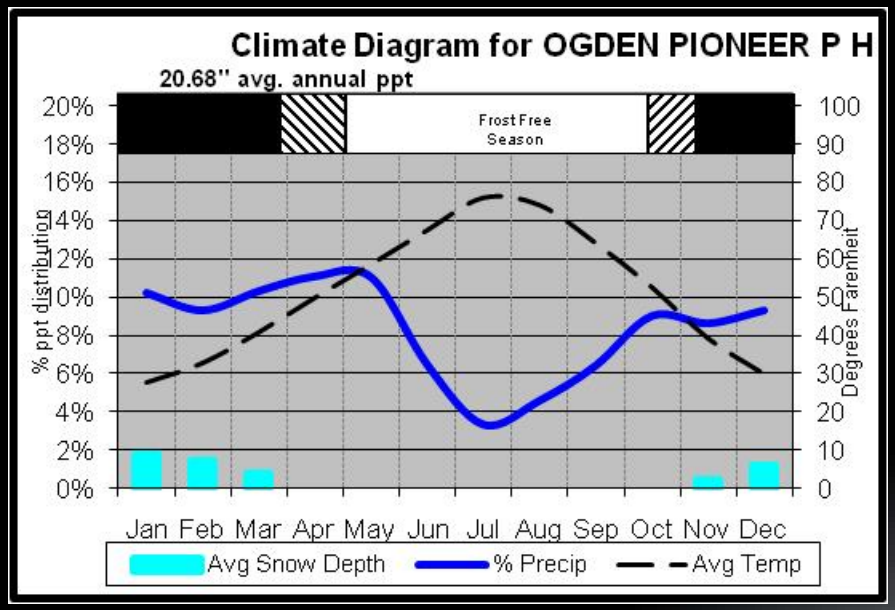
Western Regional Climate Center, wrcc@dri.edu

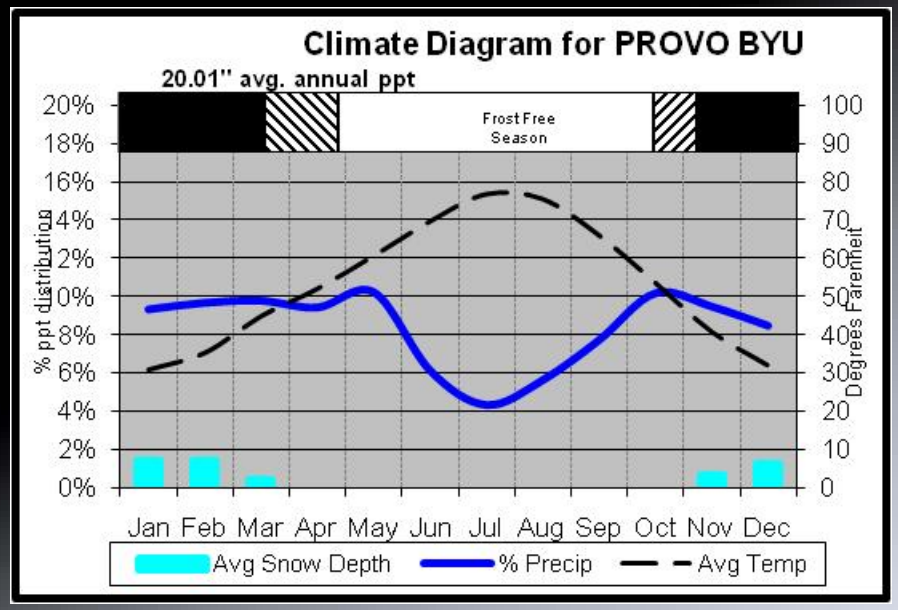
Climate Graphing Tool

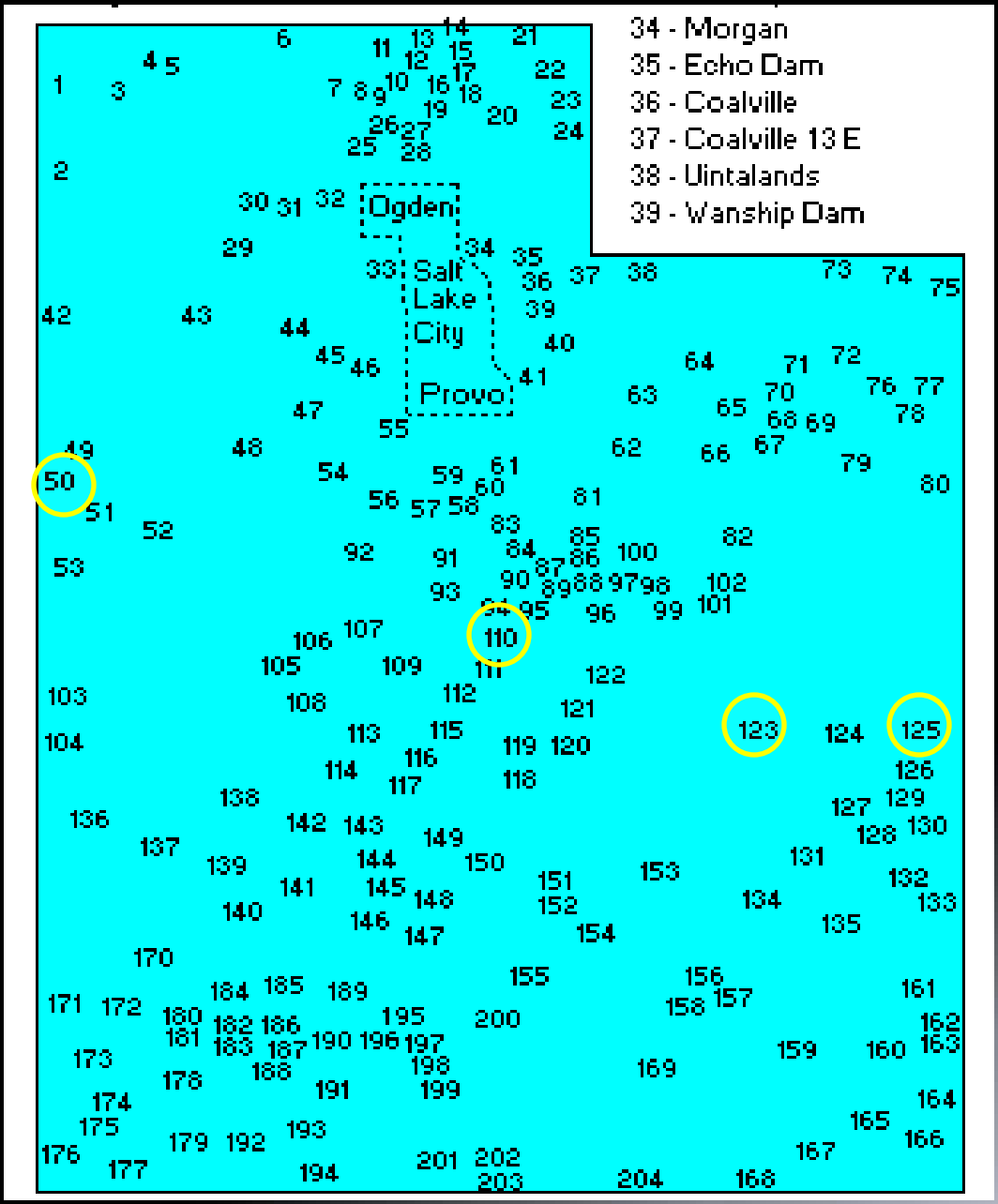
- Developed by Shane Green
- Uses data from Western Regional Climate Center
- Easy way to compare temperature and precipitation patterns between climate stations

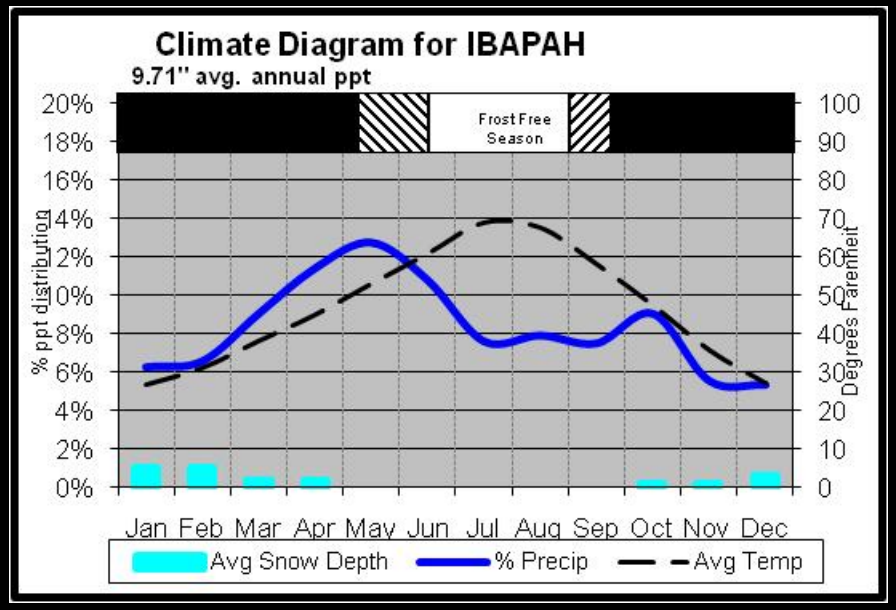

Climate Diagram for SALT LAKE CITY
15.29" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp

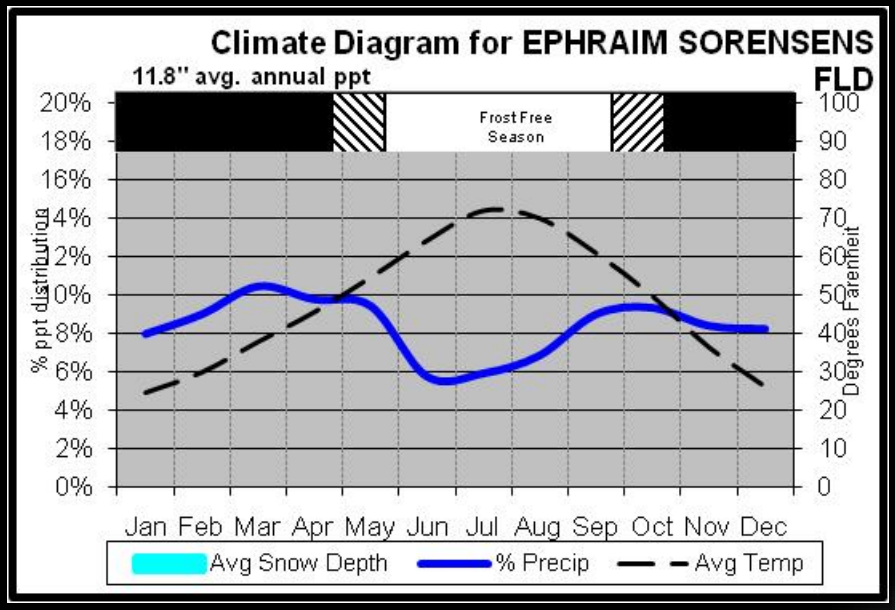

Climate Diagram for TOOELE
17.47" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp

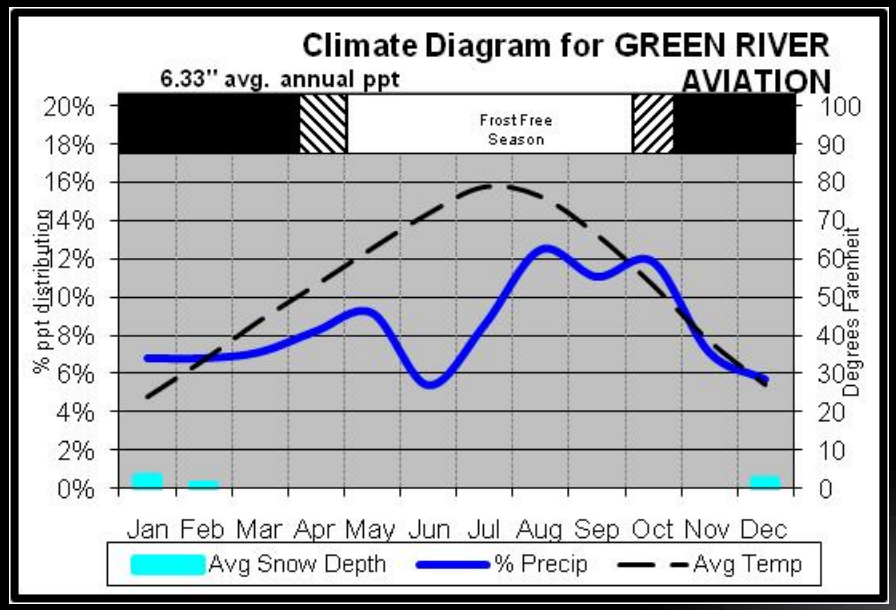

Climate Diagram for OGDEN PIONEER P H
20.68" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp

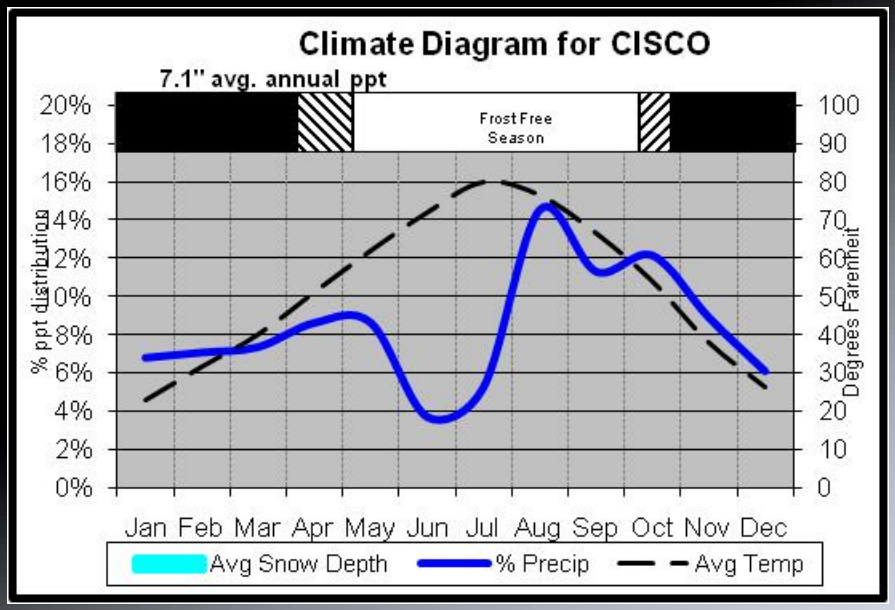

Climate Diagram for PROVO BYU
20.01" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp


34 - Morgan
35 - Echo Dam
36 - Coalville
37 - Coalville 13 E
38 - Uintalands
39 - Wanship Dam
Ogden
Salt Lake City
Provo


Climate Diagram for IBAPAH
9.71" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp


Climate Diagram for EPHRAIM SORENSENS FLD
11.8" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp


Climate Diagram for GREEN RIVER AVIATION
6.33" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp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Frost Free Season
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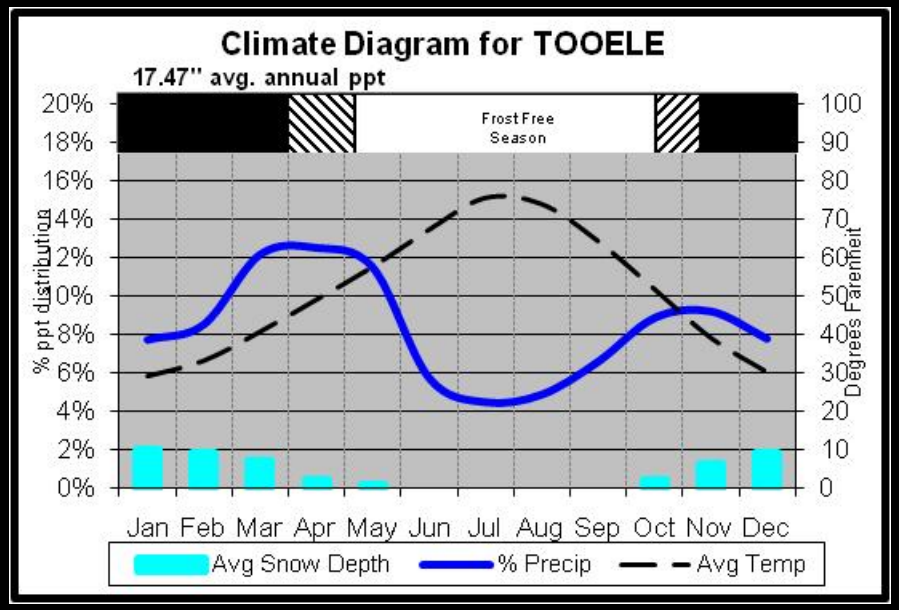
Degrees Farenheit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp


Climate Diagram for TOOELE
17.47" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
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Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
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% Precip
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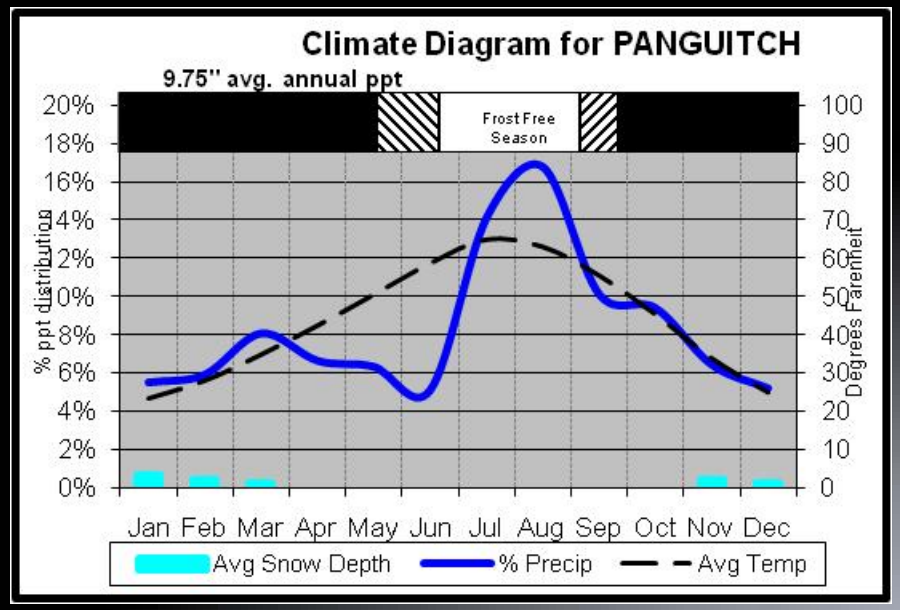
Climate Diagram for PANGUITCH
9.75" avg. annual ppt
Frost Free Season
% ppt distribution
Degrees Farenheit
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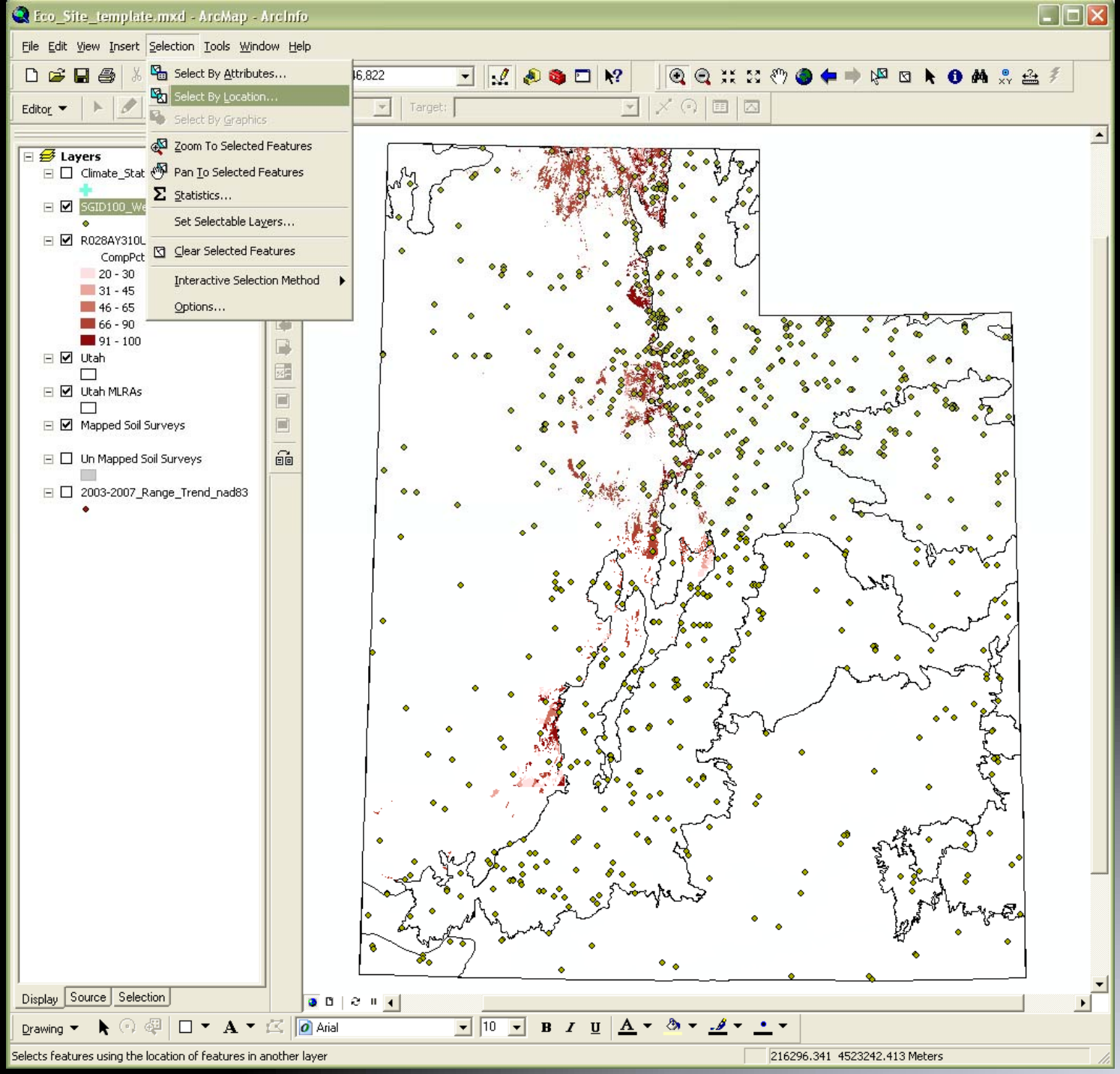
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Avg Snow Depth
% Precip
Avg Temp

Climate Summarizer

- WRCC data
- 3 interactive worksheets
  - Precipitation
  - Temperature
  - Frost-free and Freeze-free
- Calculates ESIS-compatible summaries for up to 10 climate stations
- Summarizer produces a typical range defined by minimum and maximum values which bound the interquartile range

Example:

- R028AY310UT Upland Loam (Mountain Big Sagebrush)
- Create an extent map
- Add climate stations shape file to map layer
  - http://www.wrcc.dri.edu/inventory.html (for station coordinates)
- Select climate stations that overlap or are close to the ecological site


Eco_Site_template.mxd - ArcMap - ArcInfo
File Edit View Insert Selection Tools Window Help
Select By Attributes...
Select By Location...
Select By Graphics
Zoom To Selected Features
Pan To Selected Features
Statistics...
Set Selectable Layers...
Clear Selected Features
Interactive Selection Method
Options...
Editor
Target:
Layers
Climate_Stat
SGID100_We
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CompPct
20 - 30
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46 - 65
66 - 90
91 - 100
Utah
Utah MLRAs
Mapped Soil Surveys
Un Mapped Soil Surveys
2003-2007_Range_Trend_nad83
Display
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Selects features using the location of features in another layer
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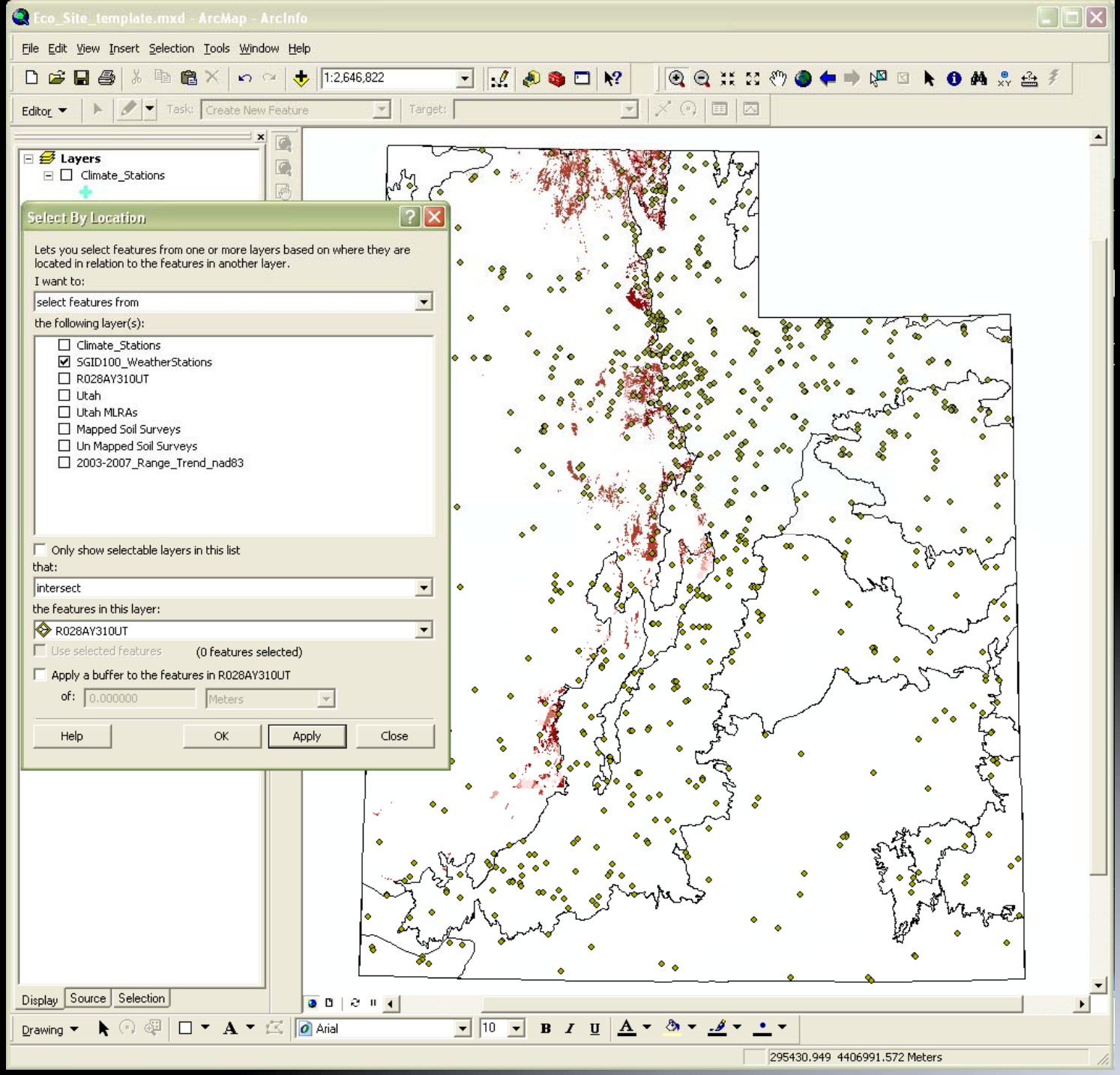
Eco_Site_template.mxd - ArcMap - ArcInfo
File Edit View Insert Selection Tools Window Help
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Editor
Task: Create New Feature
Target:
Layers
Climate_Stations
Select By Location
Lets you select features from one or more layers based on where they are located in relation to the features in another layer.
I want to:
select features from
the following layer(s):
Climate_Stations
SGID100_WeatherStations
R028AY310UT
Utah
Utah MLRAs
Mapped Soil Surveys
Un Mapped Soil Surveys
2003-2007_Range_Trend_nad83
Only show selectable layers in this list
that:
intersect
the features in this layer:
R028AY310UT
Use selected features
(0 features selected)
Apply a buffer to the features in R028AY310UT
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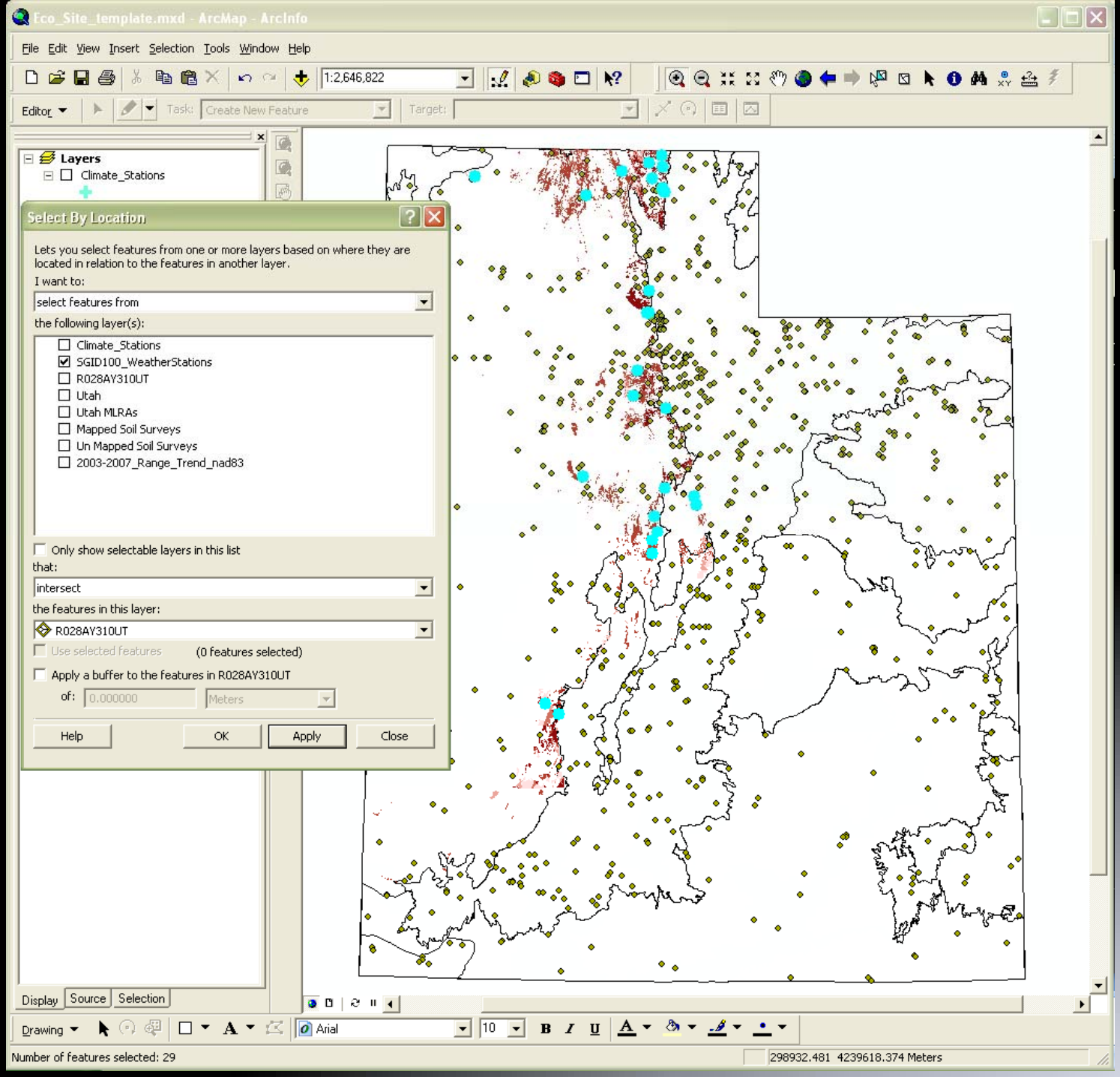
Eco_Site_template.mxd - ArcMap - ArcInfo
File Edit View Insert Selection Tools Window Help
1:2,646,822
Editor
Task: Create New Feature
Target:
Layers
Climate_Stations
Select By Location
Lets you select features from one or more layers based on where they are located in relation to the features in another layer.
I want to:
select features from
the following layer(s):
Climate_Stations
SGID100_WeatherStations
R028AY310UT
Utah
Utah MLRAs
Mapped Soil Surveys
Un Mapped Soil Surveys
2003-2007_Range_Trend_nad83
Only show selectable layers in this list
that:
intersect
the features in this layer:
R028AY310UT
Use selected features
(0 features selected)
Apply a buffer to the features in R028AY310UT
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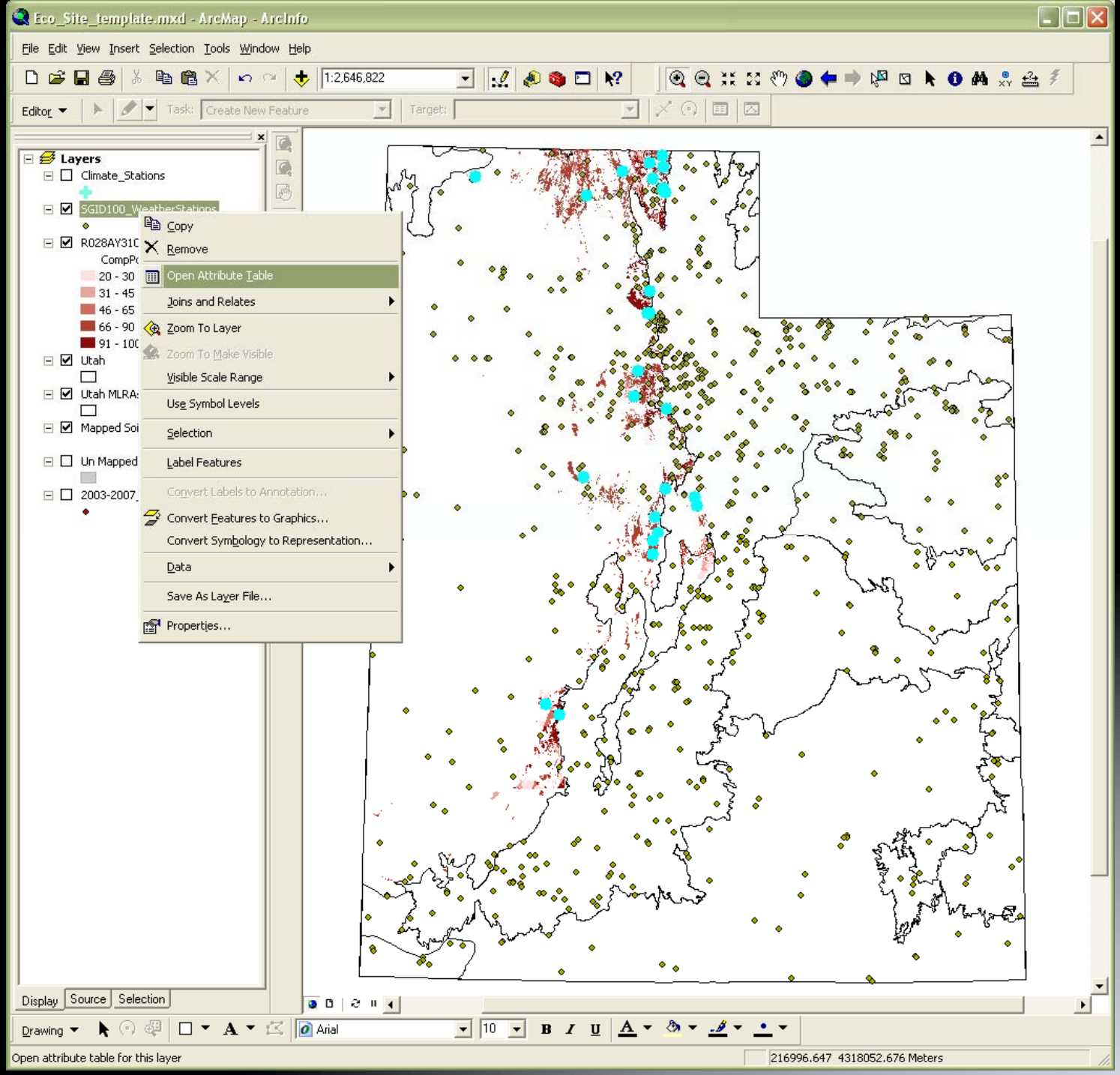
Eco_Site_template.mxd - ArcMap - ArcInfo
File Edit View Insert Selection Tools Window Help
1:2,646,822
Editor
Task: Create New Feature
Target:
Layers
Climate_Stations
SGID100_WeatherStations
R028AY31C
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31 - 45
46 - 65
66 - 90
91 - 100
Utah
Utah MLRA
Mapped Soi
Un Mapped
2003-2007
Copy
Remove
Open Attribute Table
Joins and Relates
Zoom To Layer
Zoom To Make Visible
Visible Scale Range
Use Symbol Levels
Selection
Label Features
Convert Labels to Annotation...
Convert Features to Graphics...
Convert Symbology to Representation...
Data
Save As Layer File...
Properties...
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Arial
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Open attribute table for this layer
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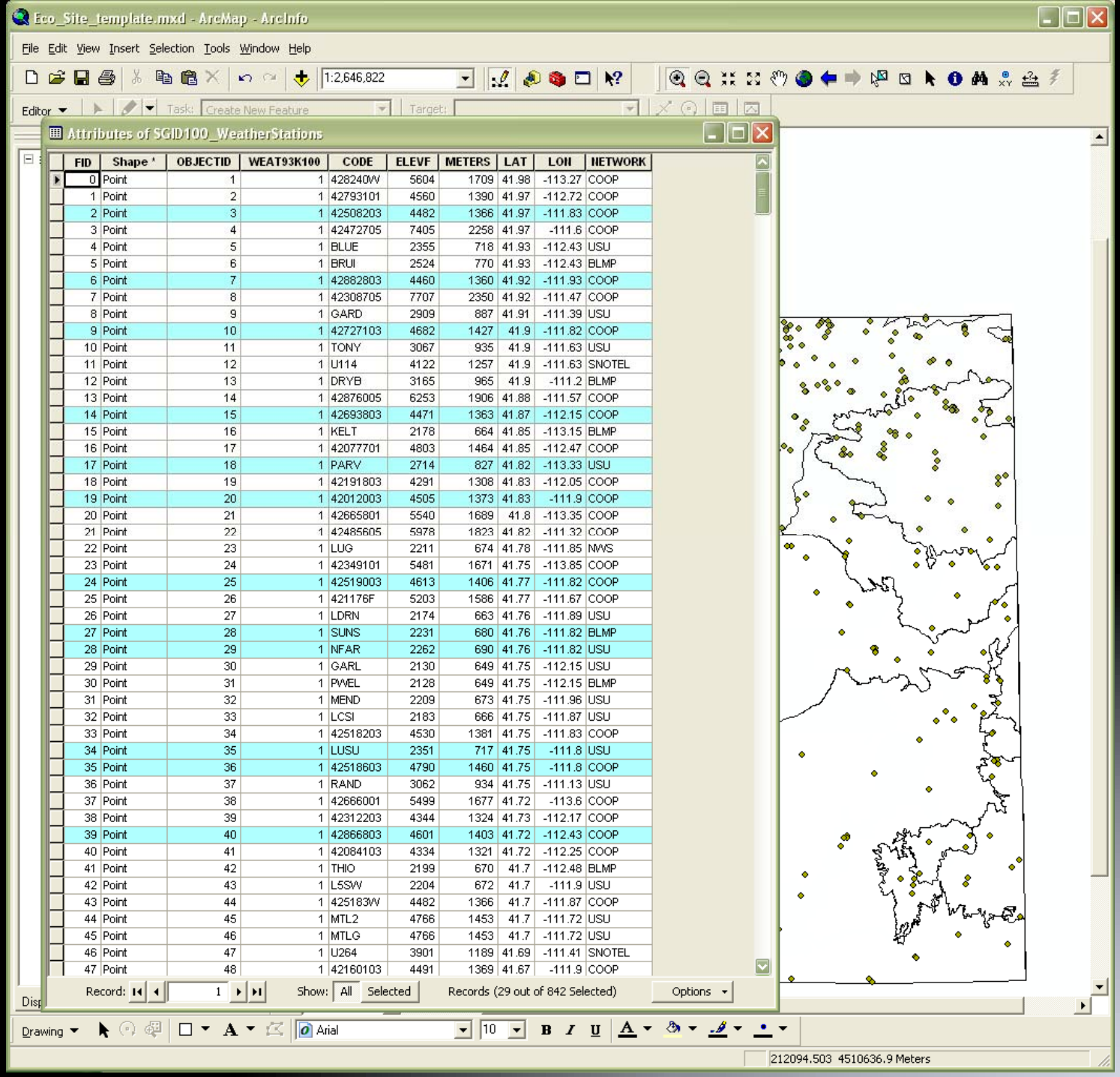

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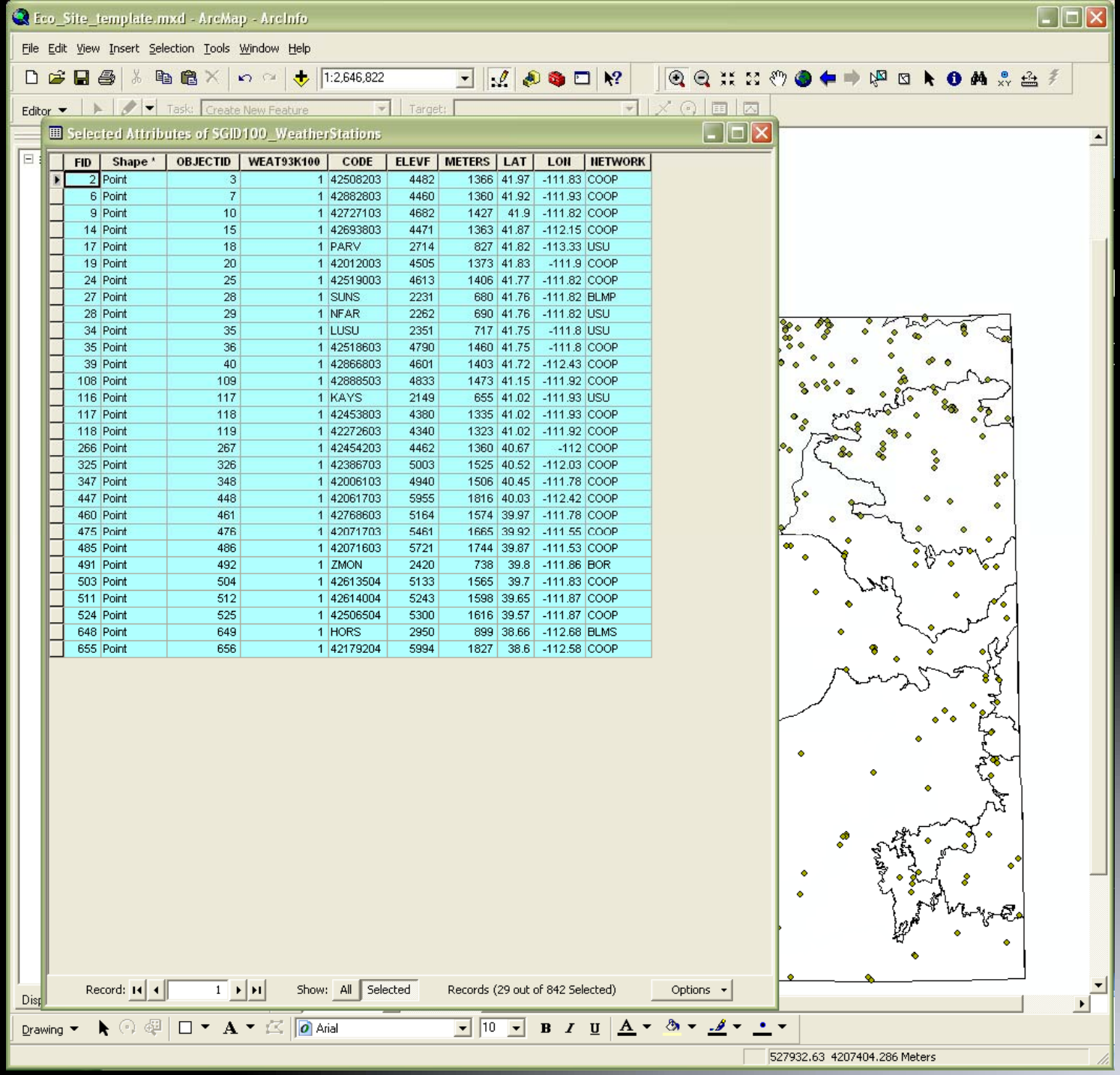
16	Point	17	1	42077701	4803	1464	41.85	-112.47	COOP
17	Point	18	1	PARV	2714	827	41.82	-113.33	USU
18	Point	19	1	42191803	4291	1308	41.83	-112.05	COOP
19	Point	20	1	42012003	4505	1373	41.83	-111.9	COOP
20	Point	21	1	42665801	5540	1689	41.8	-113.35	COOP
21	Point	22	1	42485605	5978	1823	41.82	-111.32	COOP
22	Point	23	1	LUG	2211	674	41.78	-111.85	NWS
23	Point	24	1	42349101	5481	1671	41.75	-113.85	COOP
24	Point	25	1	42519003	4613	1406	41.77	-111.82	COOP
25	Point	26	1	421176F	5203	1586	41.77	-111.67	COOP
26	Point	27	1	LDRN	2174	663	41.76	-111.89	USU
27	Point	28	1	SUNS	2231	680	41.76	-111.82	BLMP
28	Point	29	1	NFAR	2262	690	41.76	-111.82	USU
29	Point	30	1	GARL	2130	649	41.75	-112.15	USU
30	Point	31	1	PWEL	2128	649	41.75	-112.15	BLMP
31	Point	32	1	MEND	2209	673	41.75	-111.96	USU
32	Point	33	1	LCSI	2183	666	41.75	-111.87	USU
33	Point	34	1	42518203	4530	1381	41.75	-111.83	COOP
34	Point	35	1	LUSU	2351	717	41.75	-111.8	USU
35	Point	36	1	42518603	4790	1460	41.75	-111.8	COOP
36	Point	37	1	RAND	3062	934	41.75	-111.13	USU
37	Point	38	1	42666001	5499	1677	41.72	-113.6	COOP
38	Point	39	1	42312203	4344	1324	41.73	-112.17	COOP
39	Point	40	1	42866803	4601	1403	41.72	-112.43	COOP
40	Point	41	1	42084103	4334	1321	41.72	-112.25	COOP
41	Point	42	1	THIO	2199	670	41.7	-112.48	BLMP
42	Point	43	1	L5SW	2204	672	41.7	-111.9	USU
43	Point	44	1	425183W	4482	1366	41.7	-111.87	COOP
44	Point	45	1	MTL2	4766	1453	41.7	-111.72	USU
45	Point	46	1	MTLG	4766	1453	41.7	-111.72	USU
46	Point	47	1	U264	3901	1189	41.69	-111.41	SNOTEL
47	Point	48	1	42160103	4491	1369	41.67	-111.9	COOP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2 | Point | 3 | 1 | 42508203 | 4482 | 1366 | 41.97 | -111.83 | COOP
6 | Point | 7 | 1 | 42882803 | 4460 | 1360 | 41.92 | -111.93 | COOP
9 | Point | 10 | 1 | 42727103 | 4682 | 1427 | 41.9 | -111.82 | COOP
14 | Point | 15 | 1 | 42693803 | 4471 | 1363 | 41.87 | -112.15 | COOP
17 | Point | 18 | 1 | PARV | 2714 | 827 | 41.82 | -113.33 | USU
19 | Point | 20 | 1 | 42012003 | 4505 | 1373 | 41.83 | -111.9 | COOP
24 | Point | 25 | 1 | 42519003 | 4613 | 1406 | 41.77 | -111.82 | COOP
27 | Point | 28 | 1 | SUNS | 2231 | 680 | 41.76 | -111.82 | BLMP
28 | Point | 29 | 1 | NFAR | 2262 | 690 | 41.76 | -111.82 | USU
34 | Point | 35 | 1 | LUSU | 2351 | 717 | 41.75 | -111.8 | USU
35 | Point | 36 | 1 | 42518603 | 4790 | 1460 | 41.75 | -111.8 | COOP
39 | Point | 40 | 1 | 42866803 | 4601 | 1403 | 41.72 | -112.43 | COOP
108 | Point | 109 | 1 | 42888503 | 4833 | 1473 | 41.15 | -111.92 | COOP
116 | Point | 117 | 1 | KAYS | 2149 | 655 | 41.02 | -111.93 | USU
117 | Point | 118 | 1 | 42453803 | 4380 | 1335 | 41.02 | -111.93 | COOP
118 | Point | 119 | 1 | 42272603 | 4340 | 1323 | 41.02 | -111.92 | COOP
266 | Point | 267 | 1 | 42454203 | 4462 | 1360 | 40.67 | -112 | COOP
325 | Point | 326 | 1 | 42386703 | 5003 | 1525 | 40.52 | -112.03 | COOP
347 | Point | 348 | 1 | 42006103 | 4940 | 1506 | 40.45 | -111.78 | COOP
447 | Point | 448 | 1 | 42061703 | 5955 | 1816 | 40.03 | -112.42 | COOP
460 | Point | 461 | 1 | 42768603 | 5164 | 1574 | 39.97 | -111.78 | COOP
475 | Point | 476 | 1 | 42071703 | 5461 | 1665 | 39.92 | -111.55 | COOP
485 | Point | 486 | 1 | 42071603 | 5721 | 1744 | 39.87 | -111.53 | COOP
491 | Point | 492 | 1 | ZMON | 2420 | 738 | 39.8 | -111.86 | BOR
503 | Point | 504 | 1 | 42613504 | 5133 | 1565 | 39.7 | -111.83 | COOP
511 | Point | 512 | 1 | 42614004 | 5243 | 1598 | 39.65 | -111.87 | COOP
524 | Point | 525 | 1 | 42506504 | 5300 | 1616 | 39.57 | -111.87 | COOP
648 | Point | 649 | 1 | HORS | 2950 | 899 | 38.66 | -112.68 | BLMS
655 | Point | 656 | 1 | 42179204 | 5994 | 1827 | 38.6 | -112.58 | COOP
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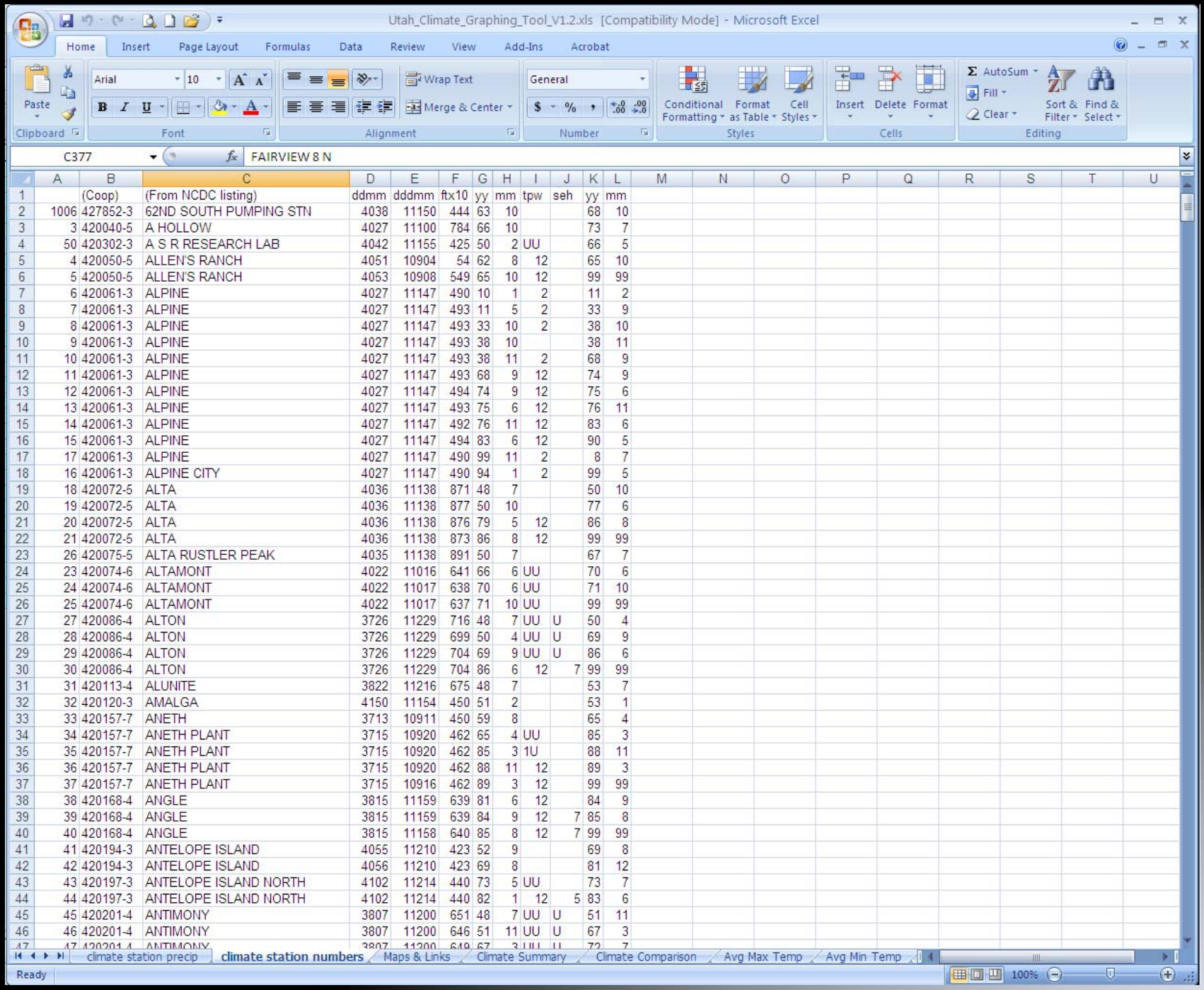

	A	B	C	D	E	F	G	H	I	J	K	L
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2	1006	427852-3	62ND SOUTH PUMPING STN	4038	11150	444	63	10			68	10
3	3	420040-5	A HOLLOW	4027	11100	784	66	10			73	7
4	50	420302-3	A S R RESEARCH LAB	4042	11155	425	50	2	UU		66	5
5	4	420050-5	ALLEN'S RANCH	4051	10904	54	62	8	12		65	10
6	5	420050-5	ALLEN'S RANCH	4053	10908	549	65	10	12		99	99
7	6	420061-3	ALPINE	4027	11147	490	10	1	2		11	2
8	7	420061-3	ALPINE	4027	11147	493	11	5	2		33	9
9	8	420061-3	ALPINE	4027	11147	493	33	10	2		38	10
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11	10	420061-3	ALPINE	4027	11147	493	38	11	2		68	9
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13	12	420061-3	ALPINE	4027	11147	494	74	9	12		75	6
14	13	420061-3	ALPINE	4027	11147	493	75	6	12		76	11
15	14	420061-3	ALPINE	4027	11147	492	76	11	12		83	6
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17	17	420061-3	ALPINE	4027	11147	490	99	11	2		8	7
18	16	420061-3	ALPINE CITY	4027	11147	490	94	1	2		99	5
19	18	420072-5	ALTA	4036	11138	871	48	7			50	10
20	19	420072-5	ALTA	4036	11138	877	50	10			77	6
21	20	420072-5	ALTA	4036	11138	876	79	5	12		86	8
22	21	420072-5	ALTA	4036	11138	873	86	8	12		99	99
23	26	420075-5	ALTA RUSTLER PEAK	4035	11138	891	50	7			67	7
24	23	420074-6	ALTAMONT	4022	11016	641	66	6	UU		70	6
25	24	420074-6	ALTAMONT	4022	11017	638	70	6	UU		71	10
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27	27	420086-4	ALTON	3726	11229	716	48	7	UU	U	50	4
28	28	420086-4	ALTON	3726	11229	699	50	4	UU	U	69	9
29	29	420086-4	ALTON	3726	11229	704	69	9	UU	U	86	6
30	30	420086-4	ALTON	3726	11229	704	86	6	12	7	99	99
31	31	420113-4	ALUNITE	3822	11216	675	48	7			53	7
32	32	420120-3	AMALGA	4150	11154	450	51	2			53	1
33	33	420157-7	ANETH	3713	10911	450	59	8			65	4
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38	38	420168-4	ANGLE	3815	11159	639	81	6	12		84	9
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41	41	420194-3	ANTELOPE ISLAND	4055	11210	423	52	9			69	8
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45	45	420201-4	ANTIMONY	3807	11200	651	48	7	UU	U	51	11
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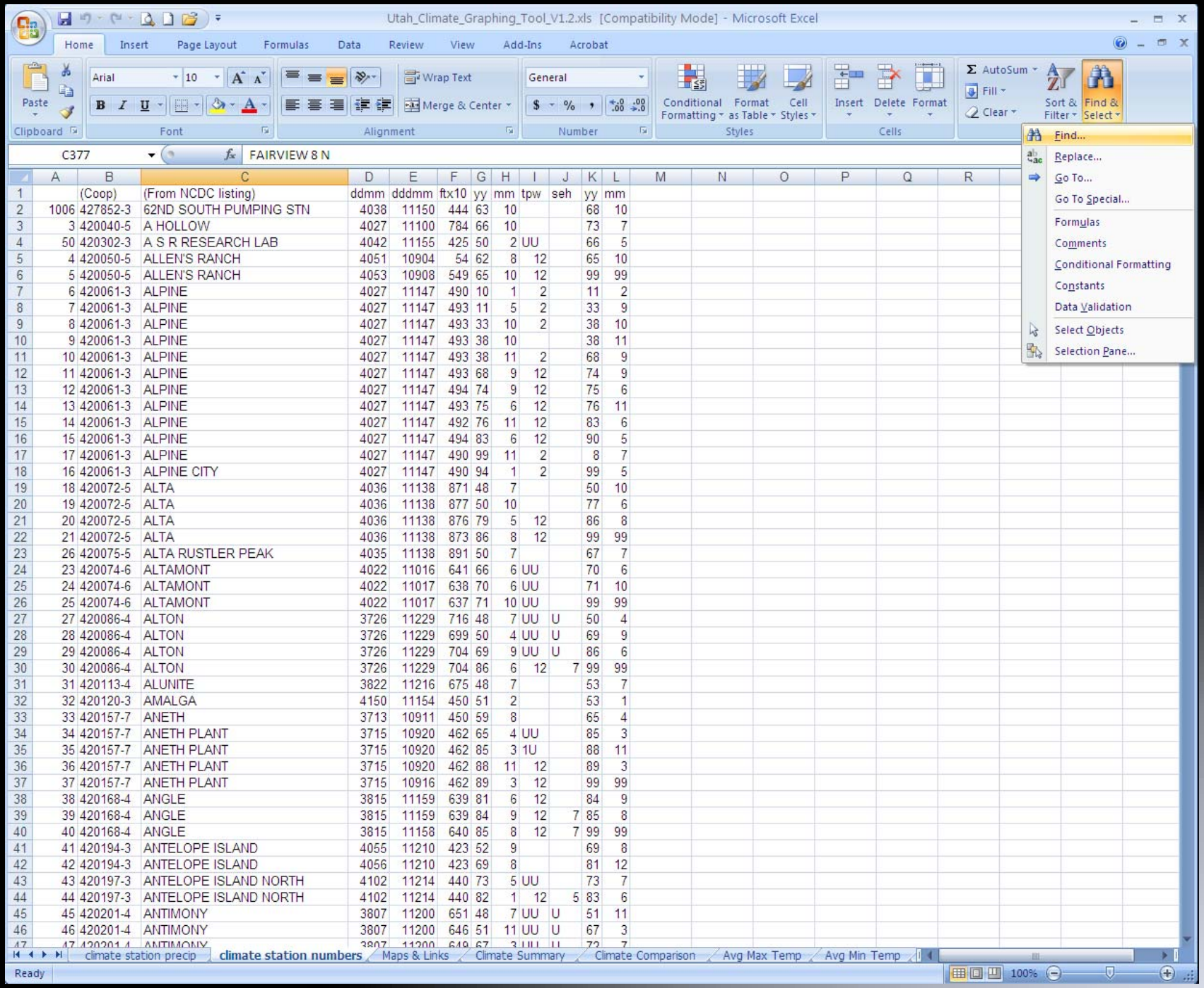

	A	B	C	D	E	F	G	H	I	J	K	L
1		(Coop)	(From NCDC listing)	ddmm	dddmm	ftx10	yy	mm	tpw	seh	yy	mm
2	1006	427852-3	62ND SOUTH PUMPING STN	4038	11150	444	63	10			68	10
3	3	420040-5	A HOLLOW	4027	11100	784	66	10			73	7
4	50	420302-3	A S R RESEARCH LAB	4042	11155	425	50	2	UU		66	5
5	4	420050-5	ALLEN'S RANCH	4051	10904	54	62	8	12		65	10
6	5	420050-5	ALLEN'S RANCH	4053	10908	549	65	10	12		99	99
7	6	420061-3	ALPINE	4027	11147	490	10	1	2		11	2
8	7	420061-3	ALPINE	4027	11147	493	11	5	2		33	9
9	8	420061-3	ALPINE	4027	11147	493	33	10	2		38	10
10	9	420061-3	ALPINE	4027	11147	493	38	10			38	11
11	10	420061-3	ALPINE	4027	11147	493	38	11	2		68	9
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18	16	420061-3	ALPINE CITY	4027	11147	490	94	1	2		99	5
19	18	420072-5	ALTA	4036	11138	871	48	7			50	10
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23	26	420075-5	ALTA RUSTLER PEAK	4035	11138	891	50	7			67	7
24	23	420074-6	ALTAMONT	4022	11016	641	66	6	UU		70	6
25	24	420074-6	ALTAMONT	4022	11017	638	70	6	UU		71	10
26	25	420074-6	ALTAMONT	4022	11017	637	71	10	UU		99	99
27	27	420086-4	ALTON	3726	11229	716	48	7	UU	U	50	4
28	28	420086-4	ALTON	3726	11229	699	50	4	UU	U	69	9
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32	32	420120-3	AMALGA	4150	11154	450	51	2			53	1
33	33	420157-7	ANETH	3713	10911	450	59	8			65	4
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38	38	420168-4	ANGLE	3815	11159	639	81	6	12		84	9
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41	41	420194-3	ANTELOPE ISLAND	4055	11210	423	52	9			69	8
42	42	420194-3	ANTELOPE ISLAND	4056	11210	423	69	8			81	12
43	43	420197-3	ANTELOPE ISLAND NORTH	4102	11214	440	73	5	UU		73	7
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45	45	420201-4	ANTIMONY	3807	11200	651	48	7	UU	U	51	11
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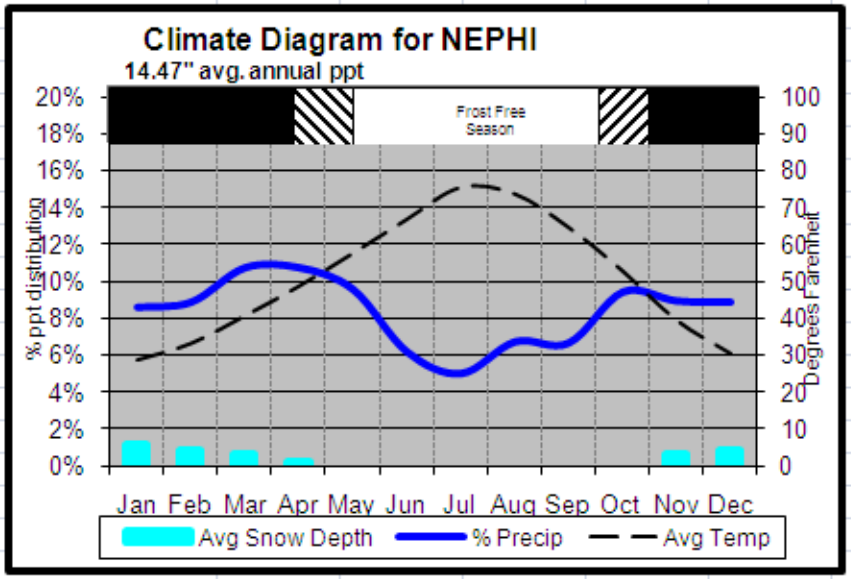
Climate Summary for: NEPHI



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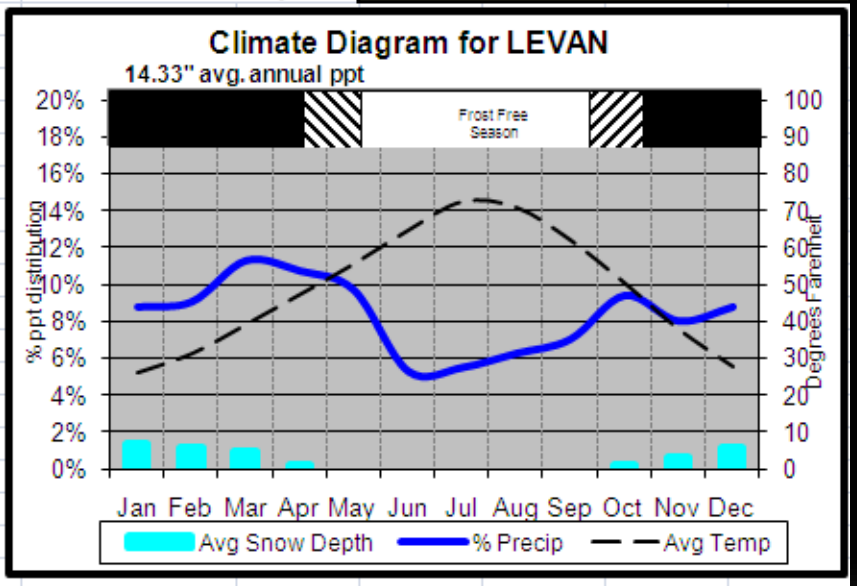

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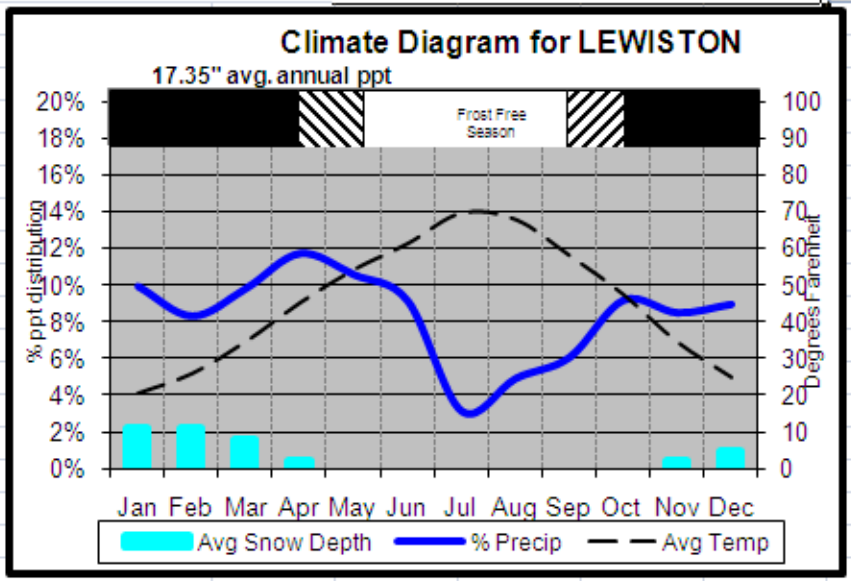
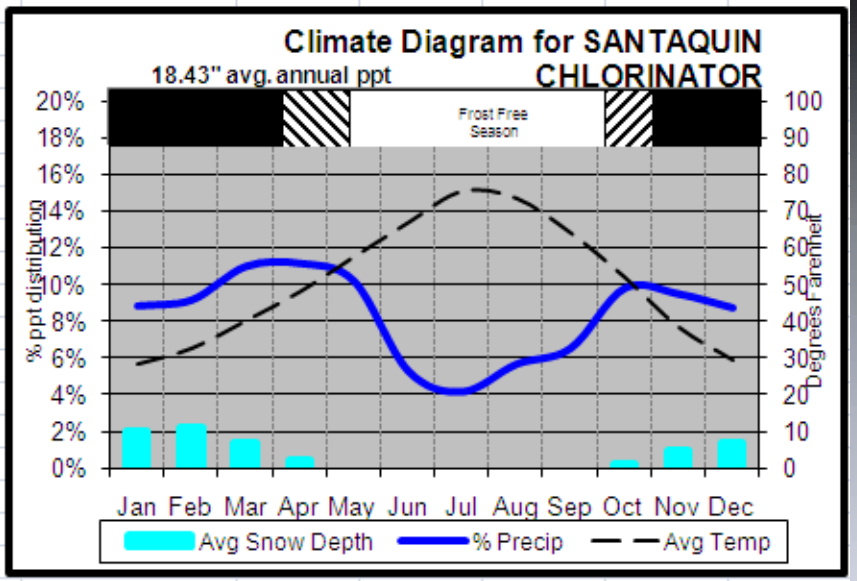
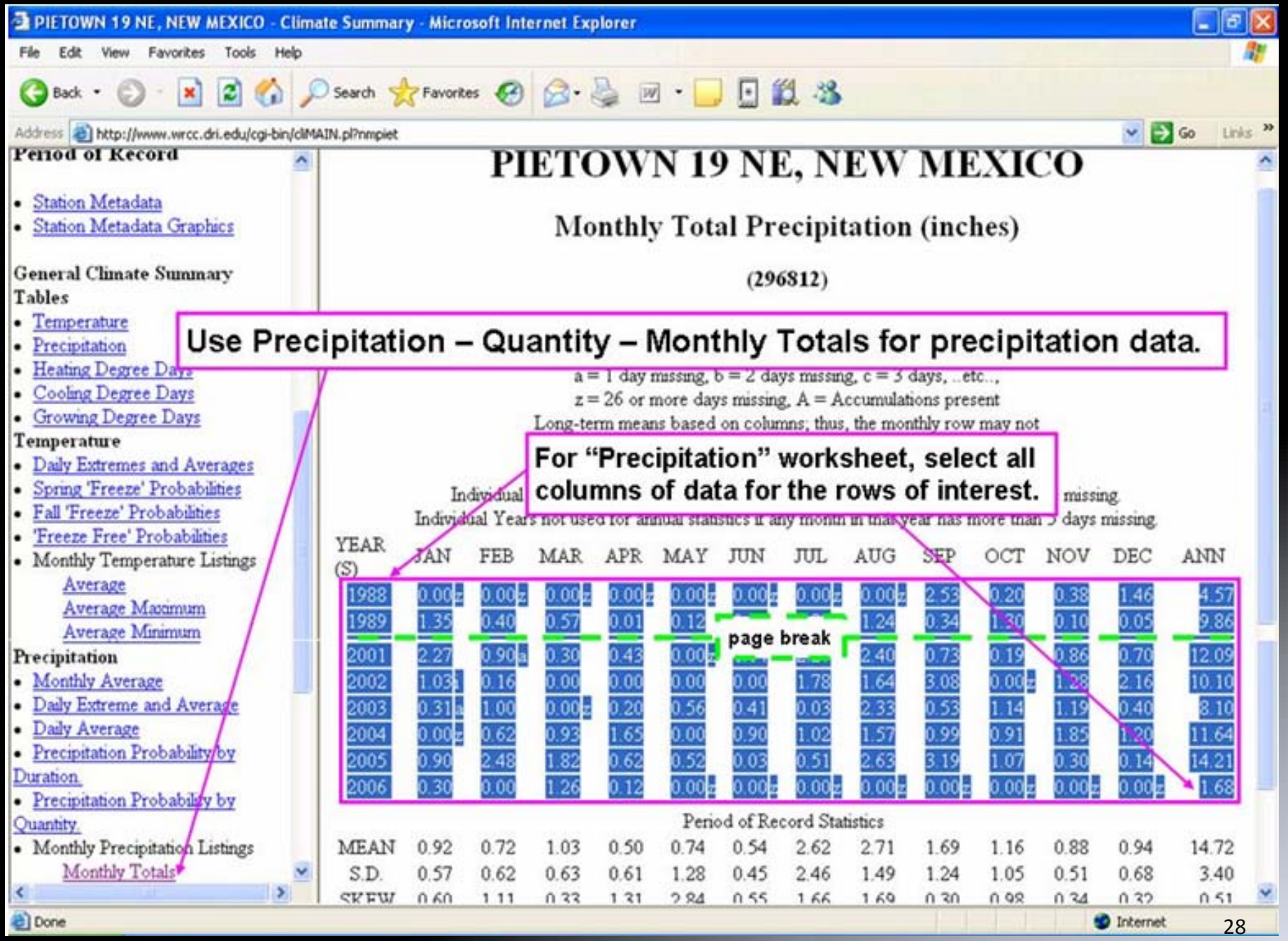
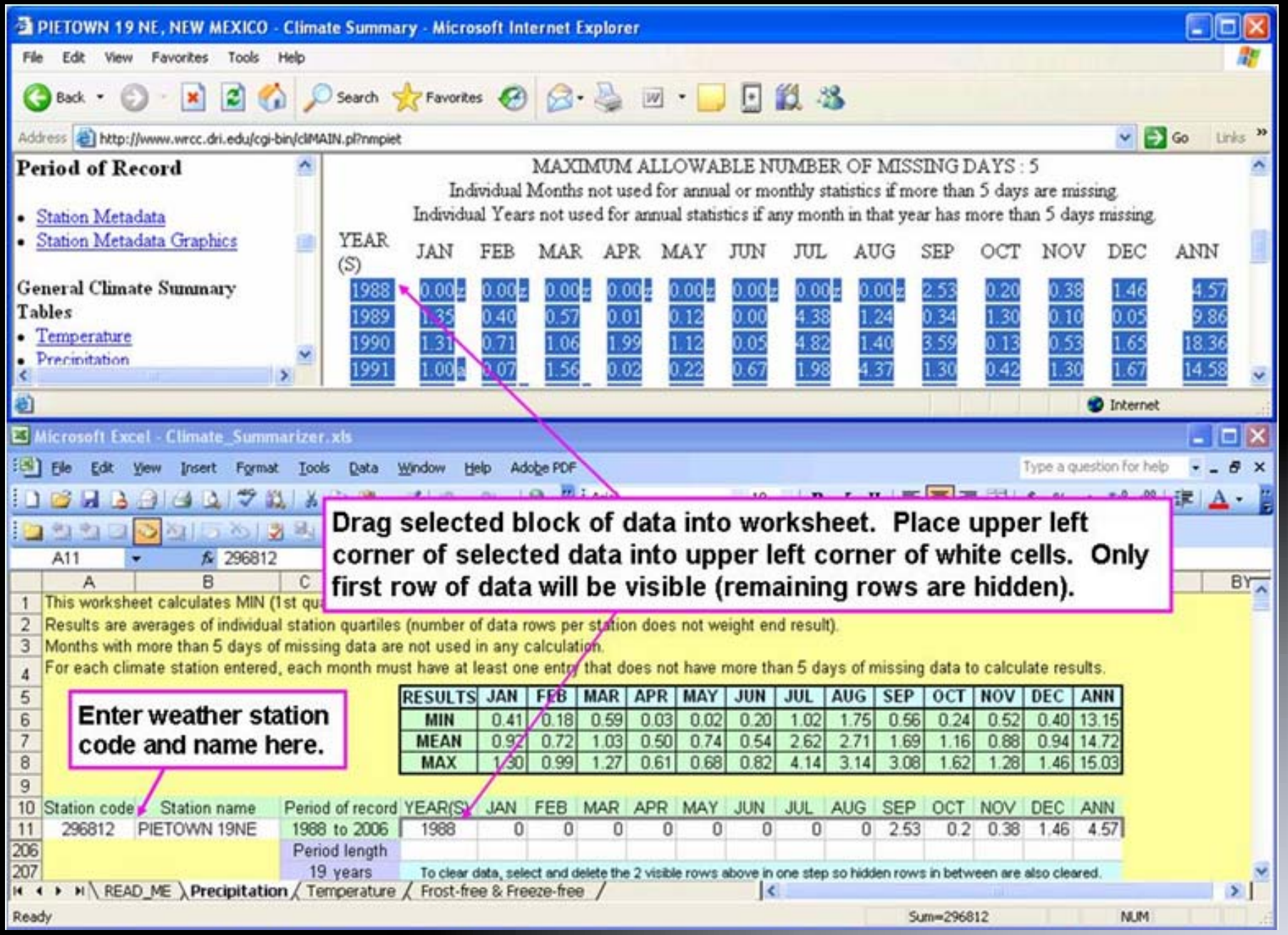
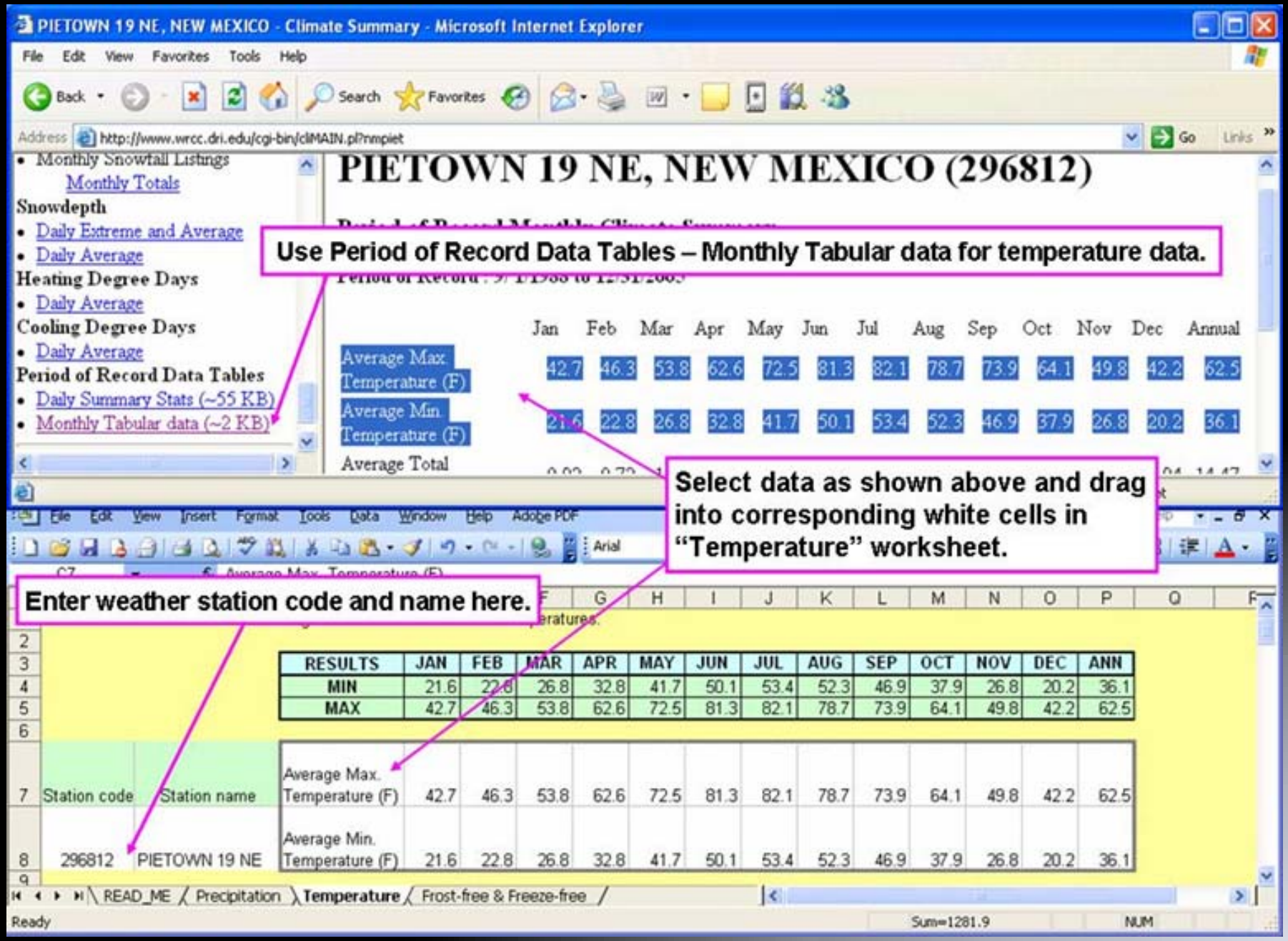


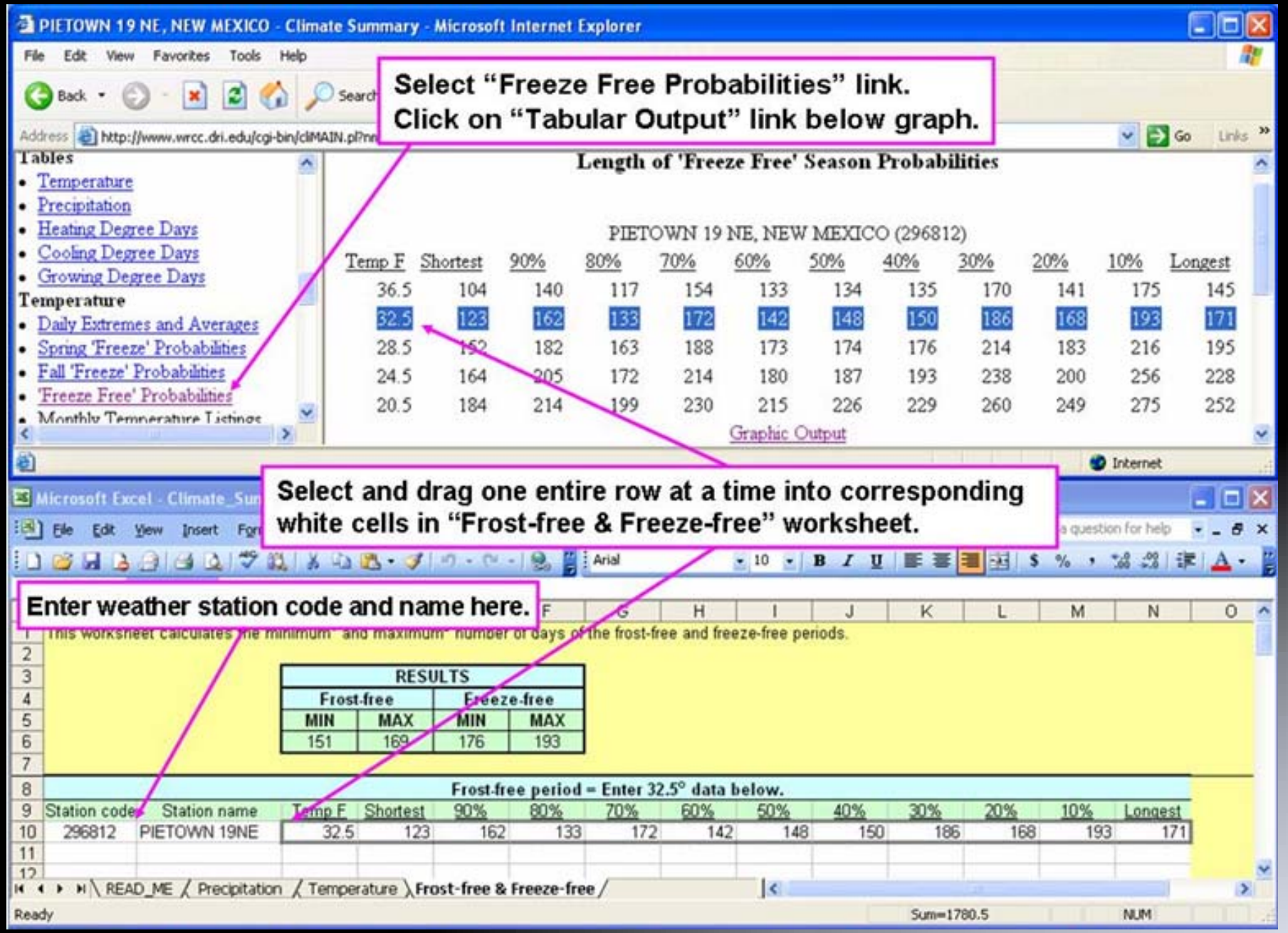
Climate Summary for: SANTAQUIN CHLORINATOR

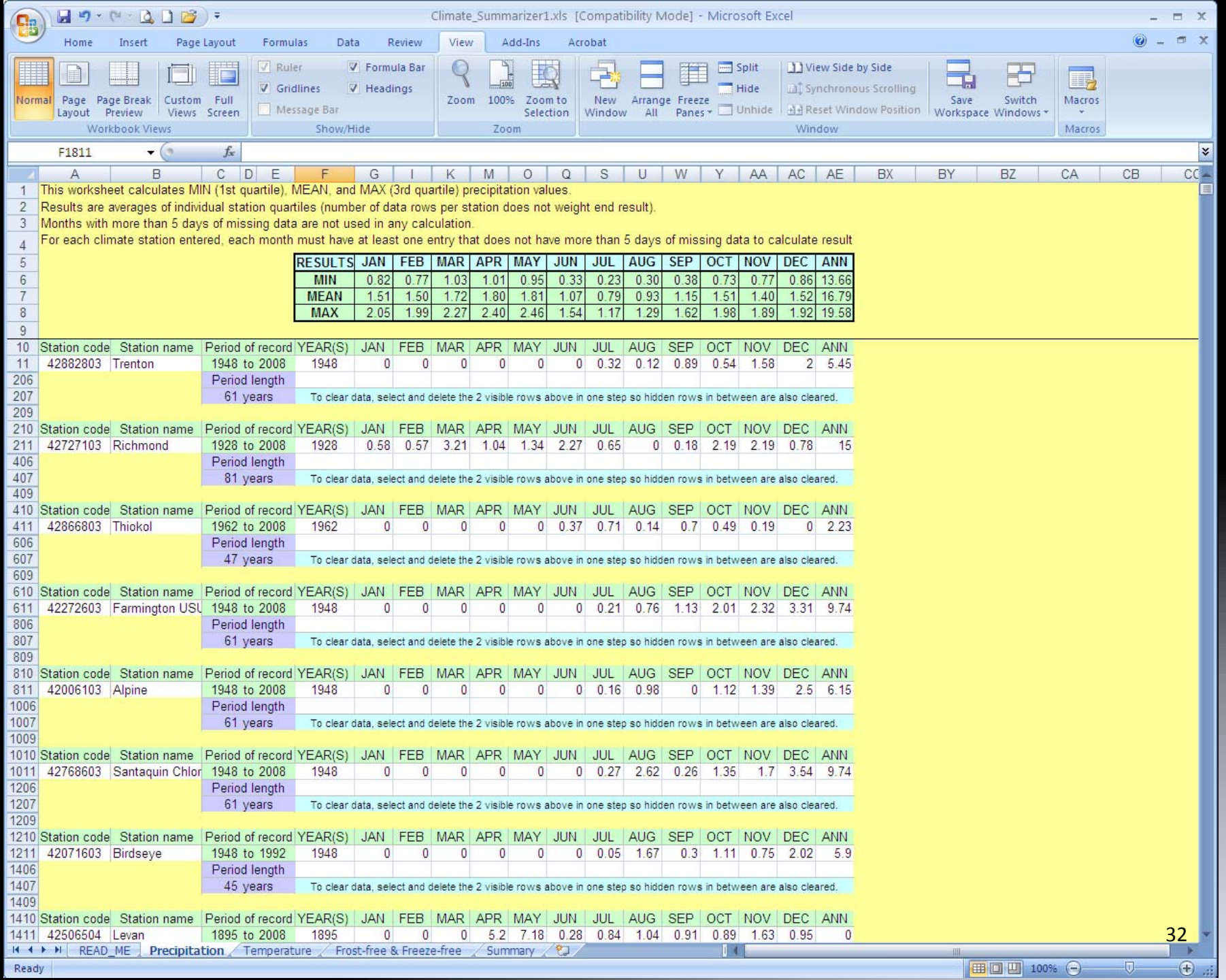



PIETOWN 19 NE, NEW MEXICO - Climate Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nmpiet
Go Links
Period of Record
Station Metadata
Station Metadata Graphics
General Climate Summary Tables
Temperature
Precipitation
Heating Degree Days
Cooling Degree Days
Growing Degree Days
Temperature
Daily Extremes and Averages
Spring 'Freeze' Probabilities
Fall 'Freeze' Probabilities
'Freeze Free' Probabilities
Monthly Temperature Listings
Average
Average Maximum
Average Minimum
Precipitation
Monthly Average
Daily Extreme and Average
Daily Average
Precipitation Probability by Duration
Precipitation Probability by Quantity
Monthly Precipitation Listings
Monthly Totals
PIETOWN 19 NE, NEW MEXICO
Monthly Total Precipitation (inches)
(296812)
Use Precipitation – Quantity – Monthly Totals for precipitation data.
a = 1 day missing, b = 2 days missing, c = 3 days, ..etc..,
z = 26 or more days missing, A = Accumulations present
Long-term means based on columns; thus, the monthly row may not
For "Precipitation" worksheet, select all columns of data for the rows of interest.
missing
Individual Years not used for annual statistics if any month in that year has more than 5 days missing
YEAR (S) JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ANN
1988 0.00z 0.00z 0.00z 0.00z 0.00z 0.00z 0.00z 0.00z 2.53 0.20 0.38 1.46 4.57
1989 1.35 0.40 0.57 0.01 0.12 1.24 0.34 1.30 0.10 0.05 9.86
page break
2001 2.27 0.90a 0.30 0.43 0.00z 2.40 0.73 0.19 0.86 0.70 12.09
2002 1.03a 0.16 0.00 0.00 0.00 0.00 1.78 1.64 3.08 0.00z 1.28 2.16 10.10
2003 0.31a 1.00 0.00z 0.20 0.56 0.41 0.03 2.33 0.53 1.14 1.19 0.40 8.10
2004 0.00z 0.62 0.93 1.65 0.00 0.90 1.02 1.57 0.99 0.91 1.85 1.20 11.64
2005 0.90 2.48 1.82 0.62 0.52 0.03 0.51 2.63 3.19 1.07 0.30 0.14 14.21
2006 0.30 0.00 1.26 0.12 0.00z 0.00z 0.00z 0.00z 0.00z 0.00z 0.00z 0.00z 1.68
Period of Record Statistics
MEAN 0.92 0.72 1.03 0.50 0.74 0.54 2.62 2.71 1.69 1.16 0.88 0.94 14.72
S.D. 0.57 0.62 0.63 0.61 1.28 0.45 2.46 1.49 1.24 1.05 0.51 0.68 3.40
SKEW 0.60 1.11 0.33 1.31 2.84 0.55 1.66 1.69 0.30 0.98 0.34 0.32 0.51
Done
Internet


PIETOWN 19 NE, NEW MEXICO - Climate Summary - Microsoft Internet Explorer
http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nmpiet
Period of Record
Station Metadata
Station Metadata Graphics
General Climate Summary Tables
Temperature
Precipitation
MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS : 5
Individual Months not used for annual or monthly statistics if more than 5 days are missing.
Individual Years not used for annual statistics if any month in that year has more than 5 days missing.
YEAR (S) JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ANN
1988 0.00E 0.00E 0.00E 0.00E 0.00E 0.00E 0.00E 0.00E 2.53 0.20 0.38 1.46 4.57
1989 1.35 0.40 0.57 0.01 0.12 0.00 4.38 1.24 0.34 1.30 0.10 0.05 9.86
1990 1.31 0.71 1.06 1.99 1.12 0.05 4.82 1.40 3.59 0.13 0.53 1.65 18.36
1991 1.00 0.07 1.56 0.02 0.22 0.67 1.98 4.37 1.30 0.42 1.30 1.67 14.58
Internet
Microsoft Excel - Climate_Summarizer.xls
A11 296812
Drag selected block of data into worksheet. Place upper left corner of selected data into upper left corner of white cells. Only first row of data will be visible (remaining rows are hidden).
This worksheet calculates MIN (1st qu
Results are averages of individual station quartiles (number of data rows per station does not weight end result).
Months with more than 5 days of missing data are not used in any calculation.
For each climate station entered, each month must have at least one entry that does not have more than 5 days of missing data to calculate results.
RESULTS JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ANN
MIN 0.41 0.18 0.59 0.03 0.02 0.20 1.02 1.75 0.56 0.24 0.52 0.40 13.15
MEAN 0.92 0.72 1.03 0.50 0.74 0.54 2.62 2.71 1.69 1.16 0.88 0.94 14.72
MAX 1.30 0.99 1.27 0.61 0.68 0.82 4.14 3.14 3.08 1.62 1.28 1.46 15.03
Enter weather station code and name here.
Station code Station name Period of record YEAR(S) JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ANN
296812 PIETOWN 19NE 1988 to 2006 1988 0 0 0 0 0 0 0 0 2.53 0.2 0.38 1.46 4.57
Period length
19 years
To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.
READ_ME Precipitation Temperature Frost-free & Freeze-free
Ready
Sum=296812
NUM


PIETOWN 19 NE, NEW MEXICO - Climate Summary - Microsoft Internet Explorer
http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nmpiet
Monthly Snowfall Listings
Monthly Totals
Snowdepth
Daily Extreme and Average
Daily Average
Heating Degree Days
Daily Average
Cooling Degree Days
Daily Average
Period of Record Data Tables
Daily Summary Stats (~55 KB)
Monthly Tabular data (~2 KB)
PIETOWN 19 NE, NEW MEXICO (296812)
Use Period of Record Data Tables – Monthly Tabular data for temperature data.
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Annual
Average Max. Temperature (F) 42.7 46.3 53.8 62.6 72.5 81.3 82.1 78.7 73.9 64.1 49.8 42.2 62.5
Average Min. Temperature (F) 21.6 22.8 26.8 32.8 41.7 50.1 53.4 52.3 46.9 37.9 26.8 20.2 36.1
Average Total
Select data as shown above and drag into corresponding white cells in "Temperature" worksheet.
Enter weather station code and name here.
RESULTS JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ANN
MIN 21.6 22.8 26.8 32.8 41.7 50.1 53.4 52.3 46.9 37.9 26.8 20.2 36.1
MAX 42.7 46.3 53.8 62.6 72.5 81.3 82.1 78.7 73.9 64.1 49.8 42.2 62.5
Station code Station name
296812 PIETOWN 19 NE
Average Max. Temperature (F) 42.7 46.3 53.8 62.6 72.5 81.3 82.1 78.7 73.9 64.1 49.8 42.2 62.5
Average Min. Temperature (F) 21.6 22.8 26.8 32.8 41.7 50.1 53.4 52.3 46.9 37.9 26.8 20.2 36.1
READ_ME Precipitation Temperature Frost-free & Freeze-free
Ready
Sum=1281.9
NUM


PIETOWN 19 NE, NEW MEXICO - Climate Summary - Microsoft Internet Explorer
Select "Freeze Free Probabilities" link.
Click on "Tabular Output" link below graph.
Tables
Temperature
Daily Extremes and Averages
Spring 'Freeze' Probabilities
Fall 'Freeze' Probabilities
'Freeze Free' Probabilities
Length of 'Freeze Free' Season Probabilities
PIETOWN 19 NE, NEW MEXICO (296812)
Temp F Shortest 90% 80% 70% 60% 50% 40% 30% 20% 10% Longest
36.5 104 140 117 154 133 134 135 170 141 175 145
32.5 123 162 133 172 142 148 150 186 168 193 171
28.5 152 182 163 188 173 174 176 214 183 216 195
24.5 164 205 172 214 180 187 193 238 200 256 228
20.5 184 214 199 230 215 226 229 260 249 275 252
Graphic Output
Select and drag one entire row at a time into corresponding white cells in "Frost-free & Freeze-free" worksheet.
Enter weather station code and name here.
This worksheet calculates the minimum and maximum number of days of the frost-free and freeze-free periods.
RESULTS
Frost-free Freeze-free
MIN MAX MIN MAX
151 169 176 193
Frost-free period = Enter 32.5° data below.
Station code Station name Temp F Shortest 90% 80% 70% 60% 50% 40% 30% 20% 10% Longest
296812 PIETOWN 19NE 32.5 123 162 133 172 142 148 150 186 168 193 171
READ_ME Precipitation Temperature Frost-free & Freeze-free
Ready
Sum=1780.5
NUM



Climate_Summarizer1.xls [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Add-Ins Acrobat

Normal Page Layout Page Break Preview Custom Views Full Screen — Workbook Views

Ruler Gridlines Message Bar Formula Bar Headings — Show/Hide

Zoom 100% Zoom to Selection — Zoom

New Window Arrange All Freeze Panes Split Hide Unhide View Side by Side Synchronous Scrolling Reset Window Position Save Workspace Switch Windows — Window

Macros — Macros

F1811

This worksheet calculates MIN (1st quartile), MEAN, and MAX (3rd quartile) precipitation values.
Results are averages of individual station quartiles (number of data rows per station does not weight end result).
Months with more than 5 days of missing data are not used in any calculation.
For each climate station entered, each month must have at least one entry that does not have more than 5 days of missing data to calculate result

RESULTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
MIN	0.82	0.77	1.03	1.01	0.95	0.33	0.23	0.30	0.38	0.73	0.77	0.86	13.66
MEAN	1.51	1.50	1.72	1.80	1.81	1.07	0.79	0.93	1.15	1.51	1.40	1.52	16.79
MAX	2.05	1.99	2.27	2.40	2.46	1.54	1.17	1.29	1.62	1.98	1.89	1.92	19.58

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42882803	Trenton	1948 to 2008	1948	0	0	0	0	0	0	0.32	0.12	0.89	0.54	1.58	2	5.45
		Period length														
		61 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42727103	Richmond	1928 to 2008	1928	0.58	0.57	3.21	1.04	1.34	2.27	0.65	0	0.18	2.19	2.19	0.78	15
		Period length														
		81 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42866803	Thiokol	1962 to 2008	1962	0	0	0	0	0	0.37	0.71	0.14	0.7	0.49	0.19	0	2.23
		Period length														
		47 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42272603	Farmington USU	1948 to 2008	1948	0	0	0	0	0	0	0.21	0.76	1.13	2.01	2.32	3.31	9.74
		Period length														
		61 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42006103	Alpine	1948 to 2008	1948	0	0	0	0	0	0	0.16	0.98	0	1.12	1.39	2.5	6.15
		Period length														
		61 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42768603	Santaquin Chlor	1948 to 2008	1948	0	0	0	0	0	0	0.27	2.62	0.26	1.35	1.7	3.54	9.74
		Period length														
		61 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

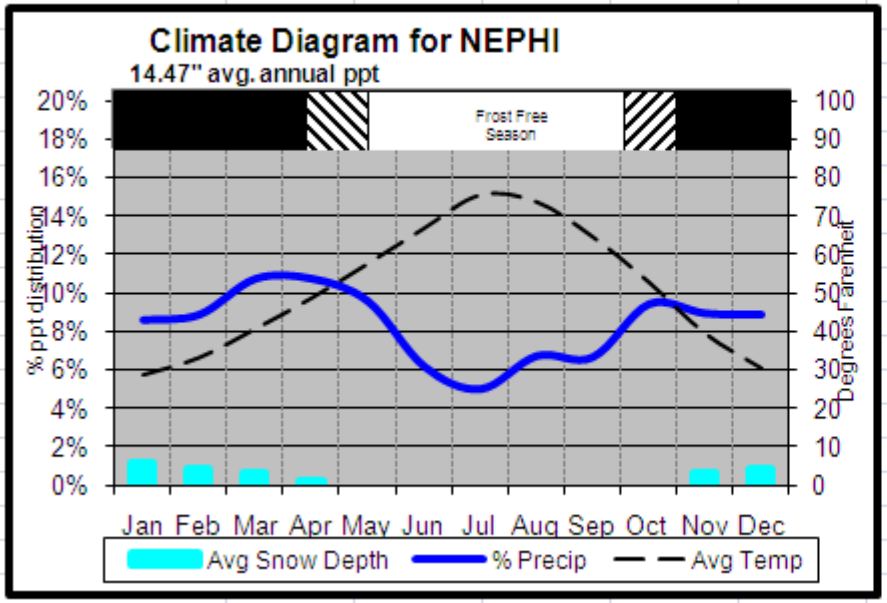
Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42071603	Birdseye	1948 to 1992	1948	0	0	0	0	0	0	0.05	1.67	0.3	1.11	0.75	2.02	5.9
		Period length														
		45 years	To clear data, select and delete the 2 visible rows above in one step so hidden rows in between are also cleared.													

Station code	Station name	Period of record	YEAR(S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
42506504	Levan	1895 to 2008	1895	0	0	0	5.2	7.18	0.28	0.84	1.04	0.91	0.89	1.63	0.95	0

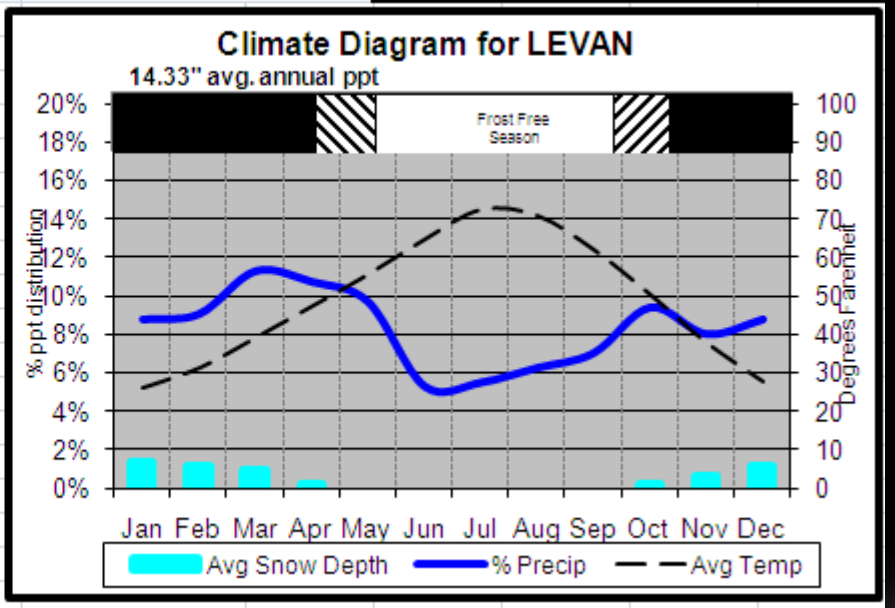
READ_ME Precipitation Temperature Frost-free & Freeze-free Summary

Ready 100%

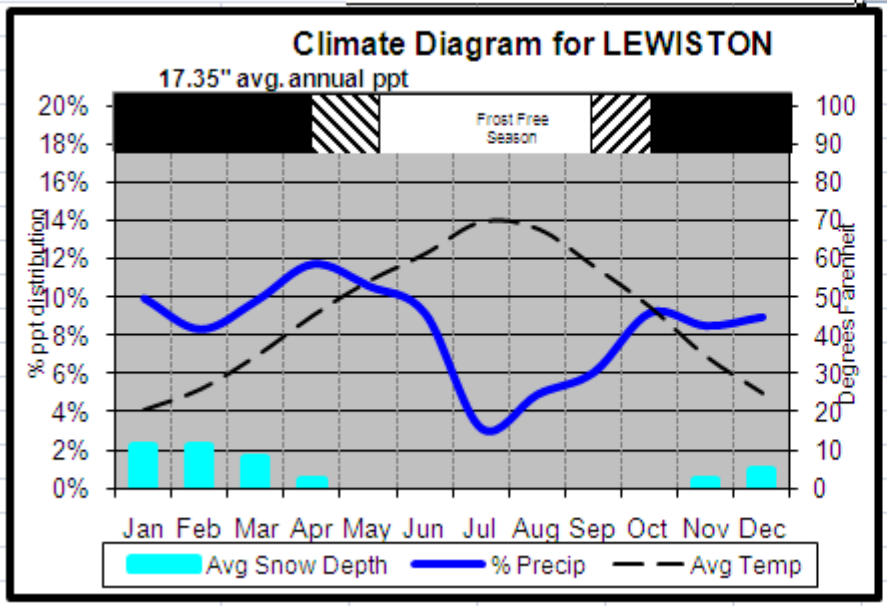
Climate Summary for: NEPHI



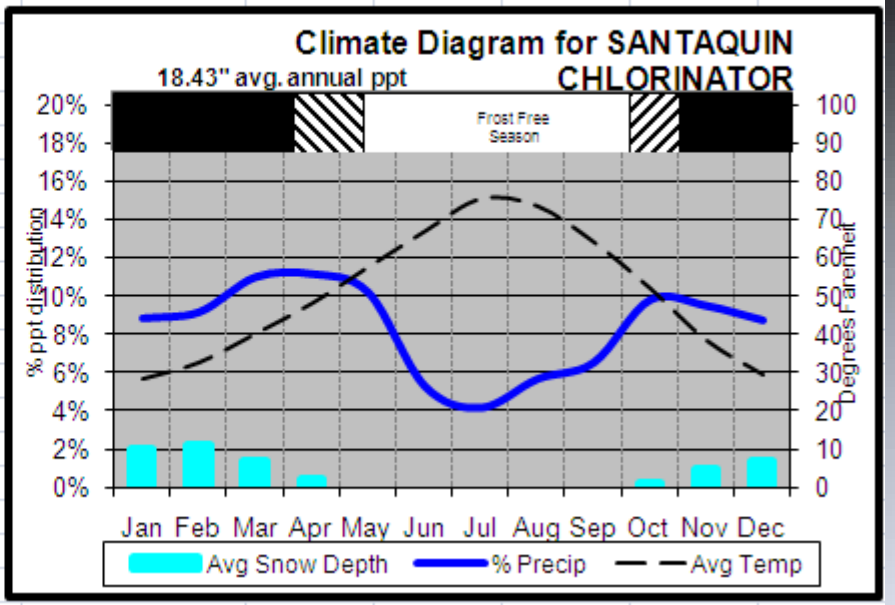
Climate Summary for: LEVAN



Climate Summary for: LEWISTON

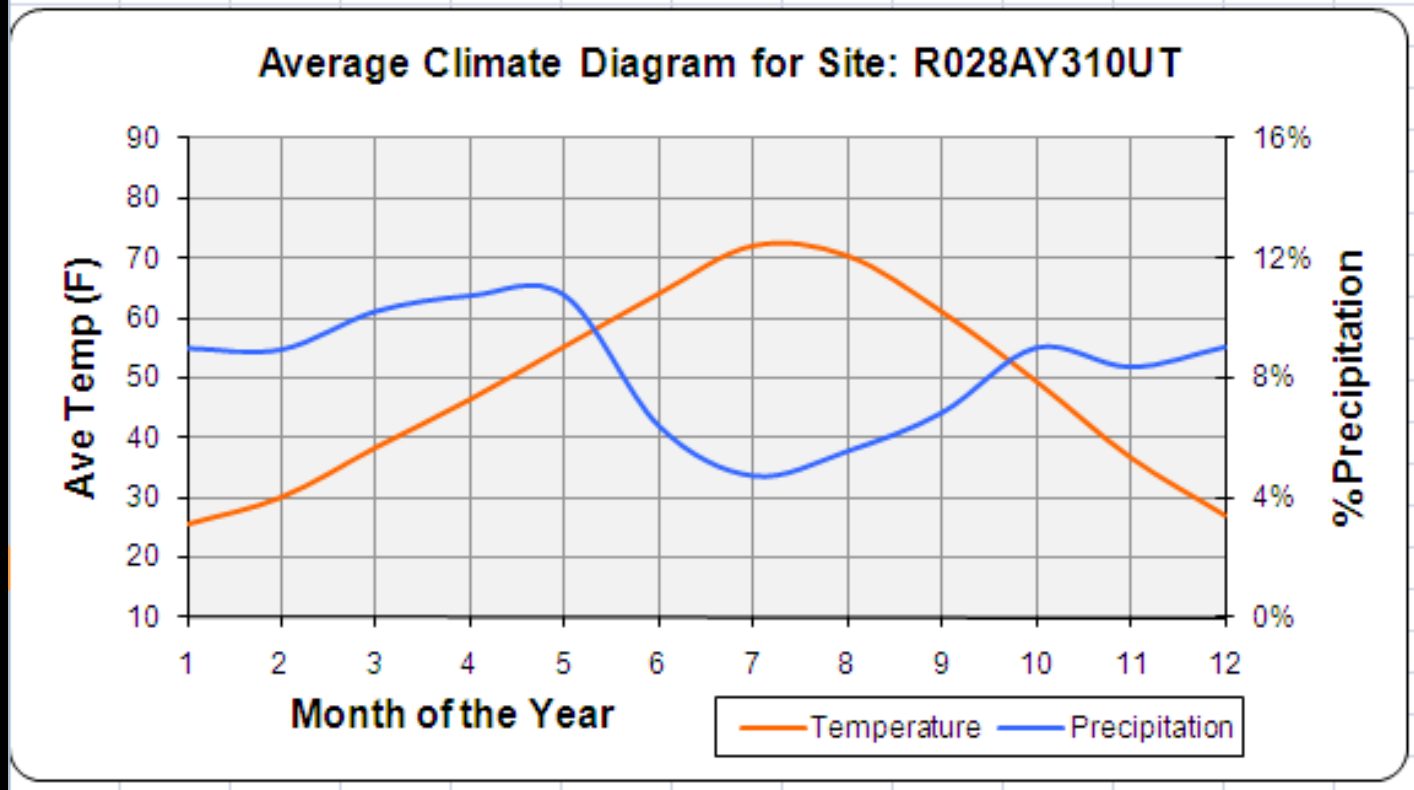


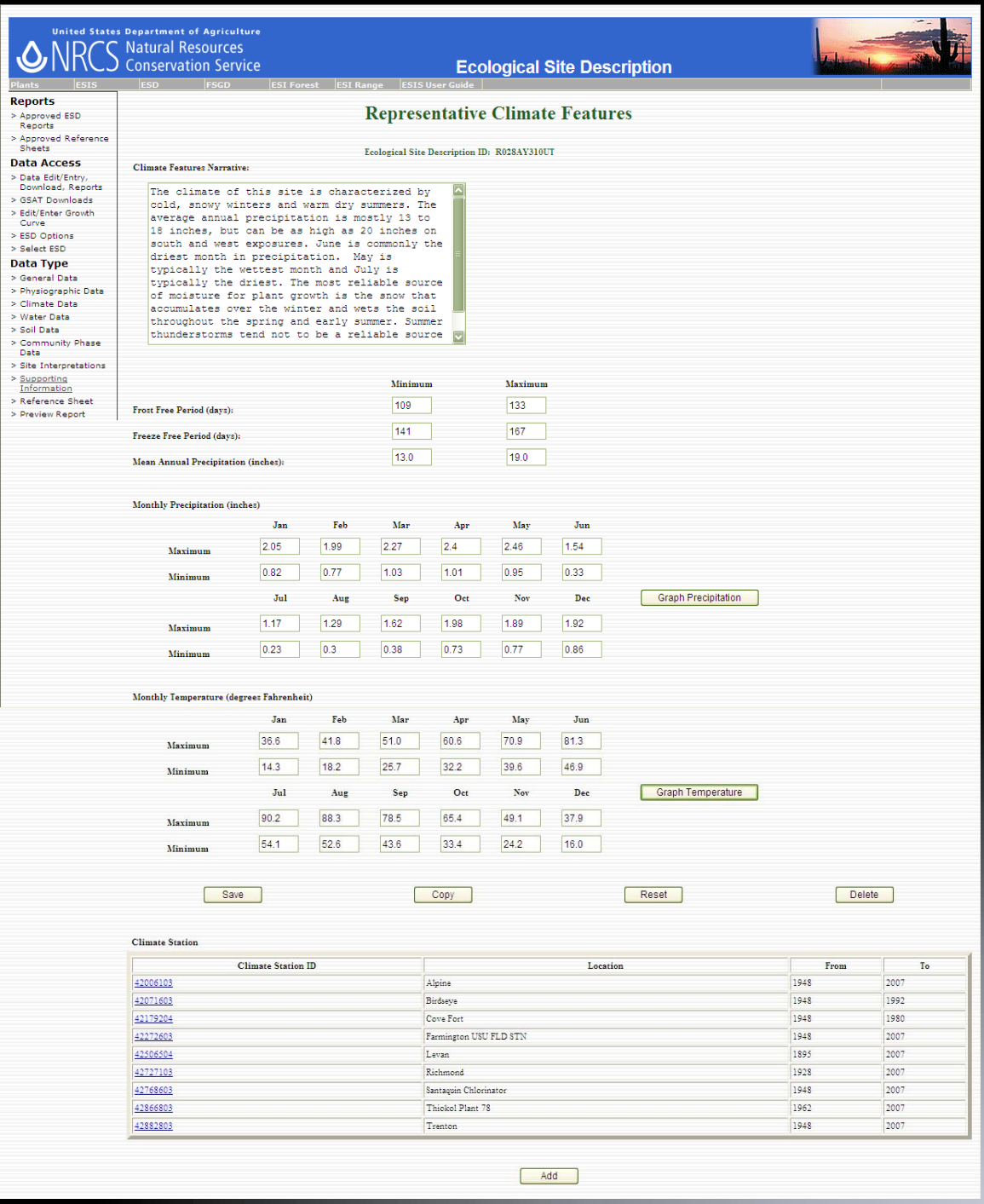
Climate Summary for: SANTAQUIN CHLORINATOR



Results

Frost-free		Freeze-free	
MIN	MAX	MIN	MAX
109	133	141	167




United States Department of Agriculture
NRCS Natural Resources Conservation Service
Ecological Site Description
Plants ESIS ESD FSGD ESI Forest ESI Range ESIS User Guide
Reports
> Approved ESD Reports
> Approved Reference Sheets
Data Access
> Data Edit/Entry, Download, Reports
> GSAT Downloads
> Edit/Enter Growth Curve
> ESD Options
> Select ESD
Data Type
> General Data
> Physiographic Data
> Climate Data
> Water Data
> Soil Data
> Community Phase Data
> Site Interpretations
> Supporting Information
> Reference Sheet
> Preview Report
Representative Climate Features
Ecological Site Description ID: R028AY310UT
Climate Features Narrative:
The climate of this site is characterized by cold, snowy winters and warm dry summers. The average annual precipitation is mostly 13 to 18 inches, but can be as high as 20 inches on south and west exposures. June is commonly the driest month in precipitation. May is typically the wettest month and July is typically the driest. The most reliable source of moisture for plant growth is the snow that accumulates over the winter and wets the soil throughout the spring and early summer. Summer thunderstorms tend not to be a reliable source
Minimum Maximum
Frost Free Period (days): 109 133
Freeze Free Period (days): 141 167
Mean Annual Precipitation (inches): 13.0 19.0
Monthly Precipitation (inches)
Jan Feb Mar Apr May Jun
Maximum 2.05 1.99 2.27 2.4 2.46 1.54
Minimum 0.82 0.77 1.03 1.01 0.95 0.33
Jul Aug Sep Oct Nov Dec
Maximum 1.17 1.29 1.62 1.98 1.89 1.92
Minimum 0.23 0.3 0.38 0.73 0.77 0.86
Graph Precipitation
Monthly Temperature (degrees Fahrenheit)
Jan Feb Mar Apr May Jun
Maximum 36.6 41.8 51.0 60.6 70.9 81.3
Minimum 14.3 18.2 25.7 32.2 39.6 46.9
Jul Aug Sep Oct Nov Dec
Maximum 90.2 88.3 78.5 65.4 49.1 37.9
Minimum 54.1 52.6 43.6 33.4 24.2 16.0
Graph Temperature
Save Copy Reset Delete
Climate Station
Climate Station ID Location From To
42006103 Alpine 1948 2007
42071603 Birdseye 1948 1992
42179204 Cove Fort 1948 1980
42272603 Farmington USU FLD STN 1948 2007
42506504 Levan 1895 2007
42727103 Richmond 1928 2007
42768603 Santaquin Chlorinator 1948 2007
42866803 Thiokol Plant 78 1962 2007
42882803 Trenton 1948 2007
Add

Questions