

February 8, 2002

Bureau of Alcohol, Tobacco, and Firearms
Regulations Division
650 Massachusetts Avenue
Washington, D.C. 20226

## RE: Viticultural Area Establishment

Carlos Creek Winery would like to apply for a grape growing area designation as a viticultural area.

As you can clearly see from the USDA-NRCS office email (Exhibit 3). The Alexandria Lakes Viticultural Area has features that produce a microclimate with s\%ightIIy more humidity and slightly lower average temperatures during the summer rights which of course is preferred for grape growing. The soils have been developed from the woodland environment and glacial drift soils, which again lermit excellent drainage for the grapes. The microclimate created by the proximity to the lakes and the protection from widespread prairie fires helped to promote the forested environment. This can be seen very clearly in Exhibit 3 B-J.

The three dominant soils are Dorset, Shooker, and Nebish. They have been developed with the recycling of bases function as evidenced by A2 or E horizons being present in soil profiles. These soil types are more deeply leached of calcium carbonates, are more acid in pH , and have stronger soil structure in the subsoil than soils developed under prairie vegetation for the most part. The soils in the viticultural area show evidence of this.

1. The proposed name of the viticultural area is Alexandria Lakes Viticultural Area. Evidence that the area is known by the proposed name is attached as Exhibit 1-A and Exhibit 1-B.
2. Historical or current evidence that the proposed boundaries of the viticultural area are correct and are attached as Exhibit 2

$$
\begin{aligned}
& 6693 \text { County Road } 34 \text { NW Alexandria, MN } 56308 \\
& \text { Tel: }(320) 846-5443 \text { Fax: (320)763-9290 } \\
& \text { E-Mail:ccwinery@carloscreekwinery.com } \\
& \text { Website: www.carloscreekwinerv.rom }
\end{aligned}
$$

Bureau of Alcohol, Tobacco, and Firearms
February 8, 2002
Page 2 of 2
3. Evidence that the geographical features of the area produce growing conditions which distinguish the proposed area from surrounding areas are attached at Exhibit 3A-3J.
4. A narrative description of the boundaries based on features, which can be found on United States Geological Survey (U.S.G.S.) maps of the largest applicable scale are attached as Exhibit 4.
5. Copies of the appropriate U.S.G.S. Maps with the boundaries marked in any prominent color are attached at Exhibit 5A, Exhibit 5B, Exhibit 5C, and Exhibit 5D.

Any questions you may have regarding this petition may be directed to me at 320 -763-4649.

Sincerely,
CARLQSCREEK $X$ OINERY

Robert G. Johnson
Executiye Director
Enclosures


# State of minnesota SECRETARY OF STATE CERTIFICATE OF ASSUMED NAME 

Mbrnesota Statutes Chapter 333
Read the directions on reverse side before completing.


All information on this form is public information.
To expedite the return of your documents, please submil a stamped sell-addressed envelope.
PLEASE TYPE OR PRINT LEGIBLY IN BLACK INK.
The filing of an assumed name does not protect a user's exclusive rights to that name. The filing is required as a consumer protection, in order to enable consumers to be able to dentify the irue owner of a business.

1. State the exact assumed name under which the business is or will be conducted: (one business name per appllcation)
$\qquad$

$M-$
2. State the address of the prindpal place of business. A complete street address or rural route and rural route box number is required; the addross cannol be a P.O.Box.

| 206 Broadway | Alexandria, | MN | 56308 |
| :--- | :---: | :---: | :---: |
| Stre日t | Clity | State | Zip code |

3. List the name and complete street address of all persons conducting business under the above Assumed Name. Attach additional sheet(s) I necessary. If the business owner is a corporation, provide the legal corporate name and registered office address of the compration.

| Name (please print) Street | City | State | Zip |
| :---: | :---: | :---: | :---: |
| Alexandria Lakes Area Chamber of Comerce, $\mid \mathrm{NC}-206$ Broadway | Alexandria, | MN | 56308 |
|  |  |  |  |
|  |  |  |  |

4. List the Standard Industrial Code (SIC) that most accurately describes the nature of the business operating under thls nams $\qquad$ 99 . Select one of the 2 -digit SIC Codes llsted on the reverse slde of this form.
5. I cortity that I am authorized to sign this certificate and I further certify that I understand that by signing this cortificate, 1 an subject to the penaties of perfury as set forth in Alfnesegfia Statutas section 609.48 as it I had signed this certificate under oath.
$\frac{8 / 15 / 94}{\text { Dato }}$

Signatire (GNLY one pefrsan listed in H3 is required to sign.)

| MoRay C. Bryant - Executive Director |
| :--- |
| Prim Name and Tit/ |
| McRay C. Bryant |
| Contact Person |

## STATE OF MINNESOTA County of Douglas <br> Cormty of Douglas .. ) ss.

## Assumed name

Pubtrin Augusk 10, 26.1994
$\therefore$ CERTIPICATE OPAB9UMEDNAME GTATE OR MIMMESOTA
Sifts the exdet estumad name under which the businessis or will be conducted: Alexandria Lukes AreiChamberó Commerce:
Fintata the adorest of the principal place of Buelness: 200 Broedway, Aloxind fla. MN BEBOD.
 - al ciperone conducting bubiness under the Gbove Asoumed Name. Alexandifa Lakos Aran Chninbur of Commerce, 208 Broadwey, AlexFingra, MN 66309.
dientify that 1 amauthonzed to olgnthis egrditcaf end I furthar certify that I urid arsignd What by algning. inis certifceto l min abbjoct to

 figrint this corticate underodth:
$\therefore$ Deted Augusi 16, 1984.
FIGMcRovCBiymit: ExecúvoDiractor 682

Jon $\mathbf{O}$. Haaven, being duly swom, on oath says that he is the publisher or authorized agent and employee of the publisher of the newspaper known as The Echo-Press and has full knowledge of the facts which are stated below:
(A) The newspaper has complled with all of the requirements constituting qualification as a qualified newspaper, as provided by Minnesota Starute 331A.02, 331A.07, and other applicable laws, as amended.
(B) The printed Certilicate of Assumed Name, State of Minnesota: Alexandrin Lakes Aren Chamber of Commerce which is attached was cut from the columns of satd newspaper, and was printed and published for two consecutive weeks; it was first published on Fulday, the 19 h doy of August. 1994 and was thereafter printed and published on every Eudrex to and including Friday the 26 th day of Aurusha 1994 and printed below is a copy of the lower case alphabet from A to Z , both inclusive, which is hereby acknowledged as being the size and kind of type used in the composition and publication of the notice:


TITLE: Presidend/General Manager
Subscribed and sworn to before me on
this 25th day of August 1994.

(1) Lowest classified rate pald by commercial users for comparable space
(2) Maximum rate allowed by law for the above matter
(3) Rate actually charged for the above matter

### 518.45

(Line, word, or inch rate)
$\$ 18.45$
(Line, word, or inch rate)
$\$ 6.80$
(Line, word, orinch rate)

## LAND ATLAS \& PLAT BOOK

## DOUGLAS COUNTY

## MIN NESOTA <br> 1993

8th Edition


Photo Courtesy of Yerka Studio, 610 Broadway, Alexandria, Minnesota 56308

Includes Full Color County Recreation Map

Published by

Rockford, Illinois 61125

Distributed by


## Midwest, Osakis, Valley Telephone Companies

(218) 338-4000

222 CLAYBORN AVENUE SOUTH - P.O. BOX 45 - PARKER PRAIRIE, MINNESOTA 56361


BOX 25 - CARLOS, MINNESOTA 56315


SEE PAGE 14

# HARVEST STATES <br> COOPERATIVES 

Feed - Seed - Fertilizer - Chemicals - Grain Buying


## Subject: Carlos Winery property

Date: Fri, 01 Feb 2002 08:03:22-0600
From: Mike Lieser [mike.lieser@mn.usda.gov](mailto:mike.lieser@mn.usda.gov)
Organization: USDA-NRCS
To: "Dennis.Miller" [Dennis.Miller@mn.usda.gov](mailto:Dennis.Miller@mn.usda.gov)

```
Dennis: As requested a brief possible explanation, soils-wise, for the
unique location characteristics of the Winery Parcel.
The location N1/2 of the N1/2 of Sec. }30\mathrm{ Carlos Twp. and the NE1/4 of
Sec. 25 Ida Twp. in Douglas county, Minnesota is in the midst of
good-sized lakes. This location can produce a microclimate with
slightly more humidity and slightly lower average temperatures. The
soils in the location help bear this out. The predominant soils mapped
here, as shown in the published Douglas County Soil Survey Report are;
Dorset, Shooker and Nebish. These soils developed under a woodland or
semi-woodland environment. The microclimate created by the proximity to
the lakes and the protection from widespread prairie fires helped
promote the forested environment.
The dominant 3 soils; Dorset, Shooker and Nebish developed with the
recycling of bases function as evidenced by A2 or E horizons being
present in soil profiles. These soils show evidence of that. These
soil types are more deeply leached of calcium carbonates, are more acid
in PH and have stronger soil structure in the subsoil than soils
developed under prairie vegetation for the most part.
These factors contribute to create a uniqueness for the location.
Mike
--
Mike Lieser
Resource Soil Scientist
USDA-NRCS
413 W. Stanton Ave.
Fergus Falls, MN 56537
Email: Mike.Lieser@mn.usda.gov
Tel: 218.736.5445
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## SOIL ASSOCIATIONS

Barnes-Langhei association: Well-drained and somewhat excessively drained, undulating to very steep soils formed in loamy glacial till

Waukon-Flom association: Well-drained and poorly drained, nearly level to steep soils formed in loamy glacial till

Sinai-Fulda association: Moderately well drained and poorly drained, nearly level to undulating soils formed in clayey glacial till or clayey lacustrine deposits

Nebish-Beltrami association: Well drained and moderately well drained, nearly level to steep soils formed in loamy glacial till

Arvilla-Sverdrup association: Somewhat excessively drained, nearly level to rolling soils formed in dominantly loamy material over sand and gravel

Forada-Arveson association: Poorly drained, nearly level soils formed in loamy material over sand and gravel

Waukon-Gonvick association: Well drained and moderately well drained, nearly level to hilly soils formed in loamy glacial till

Clarion-Flom association: Well-drained and poorly drained, nearly level to rolling soils formed in loamy glacial till

Dorset-Sioux association: Well-drained to excessively drained, nearly level to very steep soils formed in loamy material and in sand and grave

Compiled 1972


## U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

MINNESOTA AGRICULTURAL EXPERIMENT STATION
GENERAL SOIL MAP DOUGLAS COUNTY, MINNESOTA


Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

(1)Arrowwood Golf Course
(at Arrowwood - A Radisson Resort) Arrowwoòd Dive • Alexandria, MN 320-762-8337
www.radisson.com lalexandriamn Open to the public. Scenic setting with lake view. Catt \& club rental. Call for tee time.
18 holes $\bullet$ Par $70 \bullet 5336$ yards


## (2) Geneva Golf Club

3 miles east on Hwy 27 , left 1 mile on Liberty Road • Alexandria, MN 320-762-7089
www.genevagolficlub.com Joel Goldstrand Championship Golf Course. MGA rated $74.2,131$ slope. Full bar and grill. Five sets of tees. Driving Range.
18 holes • Par 72 • 7992 yards

## (3) Greystone Golf Club

1.5 miles N of Sauk Centre on Hwy 71 320-351-4653
www.gfreystonegolf.com Tom Lehman Signature Golf Course. Open to the public. Divining range. Full clubhouse facilities. Four sets of tees.
(5,395 to 7,059 yards)
18 holes • Par $72 \bullet 7059$ yards

## (4) Pezhekee Golf Course

(at Peters' Sunset Beach Resort) 20000 S. Lakeshore Dr. • Glenwood, MN 800-356-8654
www.petersresort.com
One of Minnesota's finest golf courses.
Challenging 18 holes, scenic view, suspension
bridges and wildtlowers. Open to the public. 18 holes • Par 72 • 6404 yards

## Dining In the

 Alexandria Lakes Area
## Adventures Bar \& Night Club

1-94 \& Hwy 29 S. 763-6577
Join us at Adventures for "Tropic Night," "BONE Night," and "Mental Health Hour!" Live DI Music almost every night. New appetizer menu.

## Angelina's Restaurant

 1215 Hwy 29 N. 762-1324Family dining with a full American menu featuring steak, chicken, seafood, spaghetti \& pizza.

Nightly specials and a Sunday buffet.
Beer \& Wine available.

## Bayfield's Bake Shop \& Grill

Viking Plaza Mall
762-2839
We serve freshly made sandwiches, salads and soups. Many varieties of homemade pies, ice cream, bars, rolls and cookies!
Conveniently located in the Viking Plaza Mall!

## Bug-A-Boo Bay

2800 N Nokomis NE 846-1122
Welcome to Alexandria and Bug-A-Boo Bay ... Island Paradise. Relax \& enjoy our waterfront setting while enjoying palate pleasing Caribbean foods that explode with flavor. Visit the fine restaurants Alexandria has to offer, but when it's time to kick it up a notch and experience something totally unique . . take a trip to the islands via Bug-A-Boo Bay.

## Burger King

303 30th Ave
320-762-0530
Breakfast 6:30-10:30 am
Open daily with indoor playland.
Fastest drive-thru in town!


Alexandria Lakes Area

## Activities



## Entertainment

## Airplane Rides

Alex Aviation @ Chandler Field 762-2111
Airplane Rides over the Lakes Area

## Amusement Parlas

Casey's Amusement Park
763-7576
1305 Nokomis Street
Go-Karts, Nas-Karts, Kiddy Karts, Mini Golf, Batting Cages, Water Wars and Bumper Boats.

## Go-Fore Golf

4304 Dakota S. (Behind Target) 763-5191
Go-Karts, Kiddy Karts, Mini Golf and
Driving Range.

## Bilke Rentals

Radisson Arrowwood Resort 762-1124

## Bingo

Eagles Club- Thurs 7:30pm; Saturdays 3:00pm
Senior Citizen's Center- Tues 7:30pm
UFW Wednesday 7:30pm

Holiday Jnn: R RadioShack Eden's FOOD FAIR

GODDTEEAR


Preparod by
Prepared by
Department of Agriculture
ii Conservation Service
February 1974

## GENERAL SOIL MAP OF DOUGLAS COUNTY, MINNESOTA

(A GENERALIZED MAP SHOWING MAJOR SOIL AREAS, INCLUDING GENERALIZED DESCRIPTIONS OF THE SOILS AND THEIR ESTIMATED LIMITATIONS
SOILS GROW OUR FOOD AND FIBER. THEY SUPPORT OUR BUILDINGS AND FILTER IMPURITIES FROM OUR WATER. SOME SOILS PERFORM WELL AND SOME NOT SO WELL FOR ONE OR MOR
SUITABLE FOR A PARTICULAR USE.
ON THE DOUGLAS COUNTY GENERAL SOIL MAP ARE 9 MAIN PATTERNS OF SOILS CALLED SOIL ASSOCIATIONS. SOME SOILS MAY BE IN MORE THAN ONE ASSOCIATION. EACH ASSOCIATION CONTAINS A FEW MAJOR SOILS AND SEVERAL MINOR SOILS. THE MAJOR SOILS ARE USED TO NAME THE
ASSOCIATONS. SOLS IN AN ASSOCIATION DIFFER IN SOME PROPERTIES, SUCH AS DRAINAGE SLOPE TEXTURE, OR SURFACE COLOR. FOR THESE AEASONS, A GENERAL SOIL MAP DOES NOT SHOW THE KIND OF SOL AT A SPECIFIC PLACE. FOR INFORMATIRE, OR SURFACE COLOR. FOR THESE FINED A A DETAILED SOIL MAP IS NEEDED. CONTACT THE DOUGLAS COUNTY SOIL AND WATER CONSERVATION DISTRICT OFFICE, ALEXANDRIA, MINNESOTA.


## LEGEND FOR SOIL ASSOCIATIONS OF DOUGLAS COUNTY, MINNESOTA

Barnes-Langhei Association: Deep, well and somewhat excessively drained, undulating to very steep soils formed in loamy glacial till.

Waukon-Flom Association: Deep, well to poorly drained, nearly level to steep soils formed in glacial till.

Sinai-Fulda Association: Deep, well to poorly drained, nearly level to rolling soils formed in clayey glacial till or clayey lacustrine deposits.

Nebish-Beltrami Association: Deep, well and moderately well-drained, nearly level to steep soils formed in loamy glacial till.

Arvilla-Sverdrup Association: Deep 5 and shallow, somewhat excessively drained, nearly level to hilly soils formed in sand and gravel.

Forada-Arveson Association: Moder ately deep and deep, poorly drained, nearly level soils formed in sand and gravel.

Waukon-Gonvick Association: Deep
7 well and moderately well-drained nearly level to hilly soils formed in loamy glacial till.
on: Deep,
8. well and poorly drained, nearly leve to rolling soils formed in loamy glacial till.

Dorset-Sioux Association: Shallow and very shallow, somewhat excessively and excessively drained, early level to very steep soils formed in sand and gravel.

## SOIL ASSOCIATIONS OF DOUGLAS COUNTY, MINNESOTA

## 1 BARNES-LANGHEI ASSOCIATION

The Barnes.Langhei soil association is well and some what excessively drained with undu-
 15 ocres in size. The
percent of the county,
Bornes soils make up 35 percent of the association. These welld darained soils are undulat-
ing and oceur below the steeper Langhei soi so. Typically they hove black loam surfaca ing and occur beowt the steeper Langhei sois. Typically, they hove black loom surface
loyers, dork brown to brown loam subsoi $i$, and light olive brown loam underlying material. Bornes soils ore well-sulted dand used for intenshe cropping. The erosion hazard ins mod.
erate to severe on the steeper slopes. The main limitation tor urban and recrational use erate to severe on the stee
is the steepness of slope.
Langhei soils comprise 25 percent of the association. These somewhat excessively droined

 olive gray loom underlying moterial. Most areas are cropped similorly to surrounding soils.
The erosion hazard is severe on steesper slopes. Response to fertilization is affacted by the erosion hazard is severe on stesper slopes. Response to fertilization is affected by
the high concentration of lime near the surface. The main limitation for urban and recrea. fional use is the steepness of slope.
Minor soils make up 40 percent of the association and include Flom, Aastad, Vallers, and Quam soils. The Flom soils occur in the waterways and shaillow depressions and are
poorly drained. The Acstad soils ore level to gently sloping and are moderctely well. porly drained. The Asstad soils ore level to gently sloping and are moderctely well-
drained. The Vollers soils are poorly drained and occur as rims oround and between pot drained. The Vallers soils are poorly drained and occur os. .ims around and by
holes. Quam soils are very poorly drained and occur in sloughs ond potholes.
Most of the soils in this association are used for crops and pasture. Corn, soybeans, smal groins, ond hay are the moin crops, The undrained marshes and sloughs provide excellent

## 2 waukon-flom association

The Waukon-Flom soil association is well to poorly drained with level to steep slopes, Thare are many lakes, large and small, throughout the association olong with numerous
small potholes. This association occupies about 31 percent of the county.
smati pornotes. this association occupies about 3i percent of the county.
aukon soils comprise 40 percent of the association. These well-drained soils are undu.
ating to steep. They have black to very dark gray loam surface layers, brown sandy
 well-suited ond wsed for intensive croppingo The erosion hazard is moderate to severe
Steeness of slope is the main limiting factor far urban and recteational use
flepness of slope is the main imiting factor for urban and recreational use.
Flom soils make up 15 percent of the association. They are paorly drained and occur along
 oils are welll-suited for intensive cropping if managed properly. Wetness and a high woter table are the main agricultural concerns, Severe limitations are
urban and recreational uses because of wetness and frast action.
Minor soils make up 45 percent of the ossociation and include the Langhei, Gonvick, Quam, and organic soils. The Langhei soils are somewhat excessively drained and occur on exposed knobs, knoils, and ridges. The Gonvick soils are moderately well-drained and are nearly level. The Quam soils are vary poorly drained and occur in depressions. Organic
soils are in closed depressions and along streams.
of the soils in this ossociation
Nost of the soils in this association are used for crops, pasture, and woodlond. Corn, soy-
beans, small grains, and hoy are the main crops. The woodland areas vary in size and are beans, small grains, and hay are tho main crops. The woodland areas vary in size and are wildife. Erosion, runoff, and wetness are the main concerns to forming.

## 3 SINAI-FULDA ASSOCIATION

The Sinai-Fulda soil association is well to poorly drained with nearly level to rolling slopes.
Small potholes occur throughout the association. These soils formed in clayey glacial till Small potholes occur throughout the association. These soils formed in clayey glacia
or clayey lacustrine sediments. This association comprises 4 percent of the county.
Sinai soils make up 40 parcent of the association. The se moderately well to welli-drained
soils are nearly level to rolling. They have black clay surface layers, dark grayisht brown lay subsoil, and olive gray clay underlying material. These soils are difficult to work unss a high level of organic matter is maintaned and goodmanagement is practiced to pre: tions for urban ond recreational uses.
Fulda soils make up 15 percent of the association. They are poorly drained and neorly
level. Typically, they have black silty clay surface layers, dark gray to olive gray silty


Minor soifs occount for 35 percent of the association and include the Shooker, Sioux, and
organic soils. The Shooker soils occur in drainageways and slight depressions and poorly drained. The Siaux soils are excessively drained and are underlain by sand ard gravel. The organic soils are very poorly drained and occur in the deep, closed depressions. Most of the soils in this association are used for crops, pasture, and woodland. The undrained marshes and sloughs provide exeellent habitat for wetland wildife. Corn, soybeans,
small grains, and hay are the main crops. The woodiand areas vary in size ond are scat. small grains, and hay are the main erops. The woodland areas vary in size and are scat.
tered throughout the association. Erosion, runoff, wetness, fertlity, and soil tilth are the

5 ARVILLA-SVERDRUP ASSOCIATION
The Arvilla-Sverdrup soil association is somewhot exeessively drained with nearly level to These soils. formed in sand or sand and gravel outwash material. This association makes up 15 percent of the county.
Arvilla soils comprise 30 percent of the association. These soils are somewhat excessively drained. Typically, they have black sandy loam surfaces, brown loam subsoil, and dark yeleduced crop yields most years. The nearly level to gently sloping areas are suited for irrigation. Stoepness of slope is the main limiting factor for urban and recreational uses.
Sverdrup soils account for 15 percent of the association. These soils are also excessively
drained but are underlain by sand. They have black sandy loam surface layers, brown send drained but are underlain by sond. They have black sandy loam surface layers, brown sandy loam to loomy sand subsoil, and pale brown sand underlying material. These soils are
droughty resulting in reduced crop yields most years. These soils are suited for irrigation. droughty resulting in reduced crop yelds most years. These soils are suited
Steepness of slope is the main limiting factor for urban and recreational uses. Minor soils make up 55 percent of the association and include the Sioux, Osakis, Clontarf,
and Forada soils. Sioux soils are excessively draned and underlain by sond ond grovel. The Osakis and Clontarf soils are moderately well-drained and the Forada soils are poorly rained.
Most of these soils are used for croplond and pasture. Corn, soybeans, small grains, and
hay are the main crops. Erosion, droughtiness, and fertility are the main concorns to formin

## 6 FORADA-ARVESON ASSOCIATION

The Forada-Arveson soil association is nearly level and poorly drained. Solls formed in sand and sand and gravel outwash material. This association makes up 2 percent of the county. Forada soils make up 50 percent of the association. They are nearly level and have black sandy loam surface layars, grayish brown sandy loam over loam subsoil, and grayish brown
sand and gravel underlying material. Forada soils are suited for all crops common to the ounty, with adequate drainage. The water table is near the surface in spring ond other wet periods. Wetness is the main limiting factor for urban and recreational uses.
Arveson soils make up 15 percent of the association. They are poorly drained, highly calm careous, and underlain by sond. Typically, they have black sandy clay loam over dark gray ine sandy loam surface ayers and grayish browne sand underiying material. If adequatoly
drained, these soils are suited for most crops common to the county. Response to fertilizal ion is offected by the high concentration of lime in these soils. Wind erosion is a hazard on fields left bare during winter and spring months. Wetness is the main limiting factor for urban
and recreational uses.
$\qquad$
Minor sails account for 35 percent of the association and include the Dassel, Clontarf, Hantho and Colvin soils. The Dassel soils are poorly drained and underlain by sand. The Clontan
soils are moderately woll-drained and underlain by sand. The Hantho soils are moderately
clay subsoil, and ofive gray silty clay ioam underlying material. Werness and compaction are the main agricultural concerns. Wetness and
severe limitation for urban and recreational uses.
Minor soils account for 45 percent of the association. These are the very poorly drained
Dovray and organic soils; both occurring in pothales and sloughs. Dovray and organic soils; both occurring in potholes and sloughs.
host of the association is used for cropland and pasture. Corn, soybeans, small grains, and
hay are the main crops. The marshes and potholes provide excellent habitat for hay are the main crops. The marshes and potholes provide exce llent habitat for wetland of this ossociation.

## 4 NEBISH-BELTRAMI ASSOCIATION

The Nebish-Beltrami soil association is well and moderately welledrained with nearly level
to steep slopes. These soils developed under hardwood forest in loamy glacial till. The to steep slopes. These soils developed under hardwood forest in loamy glacial till. The
association makes up 5 percent of the county.
 ing to steep. Typically they have very dark gray loam over grayish brown sandy loam sur-
face layers, darkyellowish brown sandy clay loam subsail, and light olive brown loam unde lying material. These soits are suited for all crops common to the county. Crops respond well to fertilization and proper management. The main limitation for urban and recreational evelopment is steepness of slopo.
Beltrami soifs make up 5 percent. of the as sociation. They are moderately welledrained and
have nearly level to gentle slopes. They have very dark gray loamover grayish brown loam surface layers, olive brown clay loam subsail, and light olive brown loam underlying material. These soils are suited for all crops common to the area. Crops respond well to
fertilization and proper management.
 are the main crops. Wind erosion, wetness, and fertility ore the main concerns to farming.

## 7 WAUKON-GONVICK ASSOCIATION

The Waukon-Gonyick soil association is well and moderately well-drained with nearly lavel tilly slopes. Fotholes and marshes are common throughout the association. These soils formed in loamy glacial till. The association comprises 12 percent of the county.
Waukon soils make up 35 percent of the association. The se welledrained soils aro undulating
to steep. They have black to very dark gray locm surface layers, brown sondy cloy loam sub. Wo steep. Tihey have black to very dark gray loam surface layers, brown sandy cloy loom sub-
soil, ond light olive gray loam or sandy loam underlying material. The se soils are well-suited and used for intensive cropping. The erosion hazard is moderate to severe. Steepness of slope is the main limiting factor for urban and recreational uses.
onvick soils comprise 25 parcent of the association. They are moderataly well-drained and rown to olive brown clay loam subsoil, and light Typically, they have loam surface layers, oils are well-suited and used for intensive cropping. Shrink lamunderlying material. These potential and wetness are he main limitations for urban and recreational uses.
Minor soils account for 40 percent of the association and include the Flom, Vallers, Quam, depressions. The Vallers soils are are poorly drained and occur in drainageways and slight epressions. The Vallers soils are paorly drained, calcareous, and oceur os rims around and
etween potholes and sloughs. The Quam ond Urness soils are very poorly drained and accur in deep, closed depressions.
Most soils in the association are cropsed or pastured, Corn, soybeans, small grains, and hay are the main crops. Erosion, wetness, and runoff are the main concerns to farming.


IGRAM DEPICTS THE LANDSCAPE OF SOIL ASSOCIATIONS IN DOUGLAS COUNTY

## EXPLANATIONS OF THE SOIL INTERPRETATIONS

The table lists the SOIL ASSOCIATIONS and the major SOIL SERIES in each soil association. The approximate percent of the association of each major soil is given. The percentage of minor soits is a total of all minor solls in the association. Soil limitations or suitability are rated for selected uses. Slopes of each soil in the association have been considered in the ratings. The limitations for the same soil series in different soll associations may differ because of differences in slope. ALTHOUGH THE GENERAL SOIL MAP AND TABLE ARE GUIDES FOR EVALUATING THE SOILS, A DETAILED INVESTIGATION OF THE SITE FOR PROPOSED CONSTRUCTION OR USE IS NEEDED. THE SOIL INTERPRETATIONS ARE FOR SOILS IN THE NATURAL STATE AND NOT FOR DISTURBED AREAS. The soil interpretations are based on evaluations of the material to a depth of 5 feet. Geologic reports may be beneficial for evaluating material below that depth.

Soils rated as SLIGHT are relatively free of limitations or limitations are easy to overcome. Soils rated as MODERATE have limitations that need to be recognized, but can be overcome with good management and careful design. A SEVERE rating indicates the limitations are severe enough to make use questionable. A severe rating does not mean the soil cannot be used for a specificuse but that careful planning and design and very good mananement are needed. In some cases, the limitations may not be economically feasible to correct.

The significance of soil properties affecting the use of the soils in the table will differ depending on the particular use.

Suitability as a Source of Roadfill is based on characteristics of a soil that reflect how well a soil performs after it is removed from its original location and is placed in a road embankment elsewhere. It is also based on soil characteristics that determine the ease or difficulty in getting the soll out Some of the characteristics used are shrink-swell potential, susceptibility to frost action, slope, stoniness, rockiness, and soll drainage class.

Suitability as a Source of Sand and Gravel is based on the probability that soils generally contain sizeable quantities of these materials. Soft materials, such as shale or siltstone, are not considered sand and gravel for these interpretations. To qualify as a good or fair probable source, the layer of sand or gravel must be at least 3 feet thick. The entire thickness need not be in the uppermost 5 or 6 feet if it is known through observations of deep cuts or fromother evidence including geologic data, that the sand or gravel extends downward for several feet. The main purpose of the ratings is to guide readers to local sources. These materials, used in great quantity in many kinds of construction work, are heavy and bulky and are expensive to transport. Information on where to look for nearest sources can result in substantial savings.

Suitability as a Source of Topsoil is rated mainly on depth, texture, organic matter content, and wetness of the surface layer of undisturbed soil. Topsoil is considered to be used for establishing lawns. A rating of good mear the soll provides a good source of topsoil for removal and transfer to anothe place or it can be used in place.

Septic Tank Absorption Fields are influenced by the ease of downward mov ment of effluent through the soll. Soils with moderately slow or slow perme ability are rated severe. Other soll properties that affect septic tank absor tion fields are flooding hazard, seasonal high water table, topography, ston ness and rockiness, and depth to bedrock or other impervious materials. In some places in Soil Association 4 and all of Soll Associations 5, 6, and 9, there is rapidly permeable sandy or sandy and gravelly material. Ground water contamination from septic tank absorption fields is a definite hazard In these places and special onsite investigations are needed.

Shallow Excavations are made for various uses such as basements for dwel ings, graves in cemeteries, trenches for underground utility !ines, sewers, pipelines, and cables. Each use has definite requirements of the soil and though the limitations ratings are highly relevant, they may be insufficient for a particular use. For example, additional interpretations concerning shrink-swell potential and corrosivity are needed for giving ratings for the use of soils for pipelines. Desirable characteristics are good workability, moderate resistance to sloughing, gently slopes, absence of rock outcrops and big stones, and no flooding hazard.

Dwellings with Basements are affected by properties such as susceptibility to frost heave, texture and density of the subsoil and underlying layers, sea sonal high water tahle, flooding or ponding hazards, slopes as related to cu and fills, land slippage, differential settling of moved material, stoniness o rockiness and depth ot bedrock. This rating is based on the construction o a basement under the dwelling as most permanent homes have in Douglas Co

Local Roads and Streets are rated for those soil features that affect perforn ance for the location of highways and streets. The main factors considerec were depth to water table, susceptibility to frost heave, flooding hazard, hi clay content, and topography which influences the need for cuts and fills, depth to bedrock and presence of stones and boulders, erodibility and presence of springs and seepy areas.

Suitability for Cropping is based on the capability of the soils, when propel managed, to sustain intensive row cropping without risks of serious soil damaçe. It is affected by many factors such as soil texture, permeability, avallable water capacity, flooding or ponding hazards, slopes, and erosion hazards. Soils that are naturally wet but which can be or have been improv by supplemental drainage are rated according to their continuing limitation after drainage improvements have been installed.

Camping and Picnic Areas for recreation are subject to heavy foot and some vehicular traffic during the camping and picnicking season. Soils with seasonally high water table at or near the surface, soils that are steep, and soils subject to flooding and ponding are rated severe. Other properties considered are permeability, surface soil texture, stoniness, and topography.

Playgrounds for recreation are highly developed for organized games. They are subject to heavy foot traffic and require a level, stone-free, firm surface with good drainage. Soils that have a seasonally high water table at or near the surface, those subject to flooding or ponding, or those that are strongly sloping to steep are rated severe

## UNDERSTANDING SOILS

Great ice sheets once moved across Douglas County. Acting like giant bulldozers, they scraped and leveled the area they touched. Rocky material was ground into a variable mixture of gravel, sand, silt, and clay and redeposited as "glacial till". During warm periods, the ice front melted as fast as it moved down and piled up materials in morainal ridges of gravelly "glacial drift". Enormous quantities of icy runoff water carried finely ground material into the broad flood plains below the glaciers. When the glaciers receded to the north, soils began to develop on these nearly level to undulating plains underlain by sand and gravel and in other areas of loamy glacial materials

Soils developed in time and were greatly influenced by the climate and living matter acting on the glacial drift. Water moves through soils in varying amounts. Soils in depressions are flooded with large amounts of water whereas hilltops shed water to lower slopes. As water moves through soils it dissolves and moves the finer materials to deeper depths. This weathering moves fine size clays into the layer called "subsolis" and soluable minerals may be washed from the surface layer. The kind of vegetation growing on soils influenced the amount of organic matter. "Timber soils" formed under trees are light colored and low in organic matter. "Prairie soils" formed under grass are high in organic matter and are dark colored.

Erosion moves soil materials from uplands to bottomlands where new alluvial soils begin to form. Soils change or "age" slowly.

## 8 CLARION-FLOM ASSOCIATION

The Clarion.Flom soil association is well to poorly drained and is nearly level to rolling. Soils in this association formed from loamy glacial till. This association makes up 4 per cent of the county.

Clarion soils make up 30 percent of the association. These well-drained soils are undulating
 lopping. The erosion hazard is moderate to severe on the steeper slopes. Steepness of Flom soils account for 20 percent of the association. These soils are nearly level, occur-
ring in drainageways and slight depressions. Drainage is poor. They have black clay loam ring in dranageways and sigh depressions. Drainage is poor. They have black clay lam
surface layers, dark grayish brown clay loam subsoil, and light olive brown loam underlying material. Flom soils are well-suited for cropping if managed properly. Wetness and ohigh water table are the main agricultural problems. Severe limitations a for urban and recreational uses because of wetness and frost action

Minor soils comprise 50 percent of the association and include the Nicollet, Quam, and Val Minor soils comprise 50 percent of the association and include the Nicollet, Quam, and Val
ers soils. Nicallet soils are moderately wellidrained. Vallers soils are poorly drained and occur as rims around and between potholes. Quam soils are very poorly drained and occur ? potholes and sloughs

Most of the soils in this association ere used for crapping and posture. Corn, soybeons,
small grains, and hay are the main crops. The undrained marshes provide excellent habitat mal grains, and hay are the main crops. The undrained marshes provide excelent

## 9 DORSET-SIOUX ASSOCIATION

The Dorset-Sioux soil association is nearly leyet to very steep and is somewhat excessively excessively drained. There are also a fow rakes ond numerous potholes. These soils ormed in s.
he county.

Dorsef soils comprise 40 percent of the association. They are undulating to rolling and are somewhat excessively drained. Typically, they have black sandy loam surface layers, dark brown sandy loam subsoil, and brown sand and gravel underlying material. These soils are roughty, resulting in reduced crop yields most years. Dorsot soils are suited

Sioux soils account for 20 percent of the association. They are excessively drained and are
nearly level to very steep. They have very dark brown loamy coarse sand surface layers and nearly level to very steop. They have very dark brown loamy eoarse sand surface layers and
yellowish brown sand and gravel underlying material. Sioux soils are poorly suited for agricultural cropping. The drought hazard is severe. Steepness of slope is the main limiting

Minor soils make up 40 percent of the association. They include the Forada, Marysland, and
organic soils. The Forada soils are poorly drained and are underlain by sand and gravel. rganic soils. The Forada soils are poorly drained and are underlain by sand and gravel.
The Marysland soils are also poorly drained and underlain by sond and grayel but are strongly calcareous. The organic soils are very poorly drained and occur in closed depressions and long streqms.

| SOIL ASSOCIATION | SOIL SERIES | PERCENT OF SOIL <br> ASSOCIATION | DEPTH TO WATER TABLE | SUITABILITY AS A SOURCE OF: |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | ROADFILL | SAND - GRAYEL | TOPSOIL | $\begin{array}{r} \text { SE } \\ \text { ABSOR } \end{array}$ |
| 1 | Barnes <br> Langhei <br> Minor soils | $\begin{aligned} & 35 \\ & 25 \\ & 40 \end{aligned}$ | $\begin{aligned} & 10+ \\ & 10+ \end{aligned}$ | Fair: Shrink-swell Fair-paor: Slope | Unsuited Unsuited | Fair-poor: Thin Poor: Thin, slope | Slight-sevi Slight-sevi |
| 2 | Waukon <br> Flom <br> Minor soils | $\begin{aligned} & 40 \\ & 15 \\ & 45 \end{aligned}$ | $\begin{aligned} & 10+ \\ & 2.5 \end{aligned}$ | Fair: shrink-swell <br> Poor: Frost action, wet | Unsuited Unsuited | Poor: Thin, slope Poor: Wet | Slight-sevi <br> Severe: $W_{\epsilon}$ |
| 3 | Sinai <br> Fulda <br> Minor soils | $\begin{aligned} & 40 \\ & 15 \\ & 45 \end{aligned}$ | $\begin{aligned} & 8.15 \\ & 1.4 \end{aligned}$ | Poor: Shrink.swell <br> Poor: Shrink-swell, wet | Unsuited Unsuited | Poor: Too clayey <br> Poor: Too clayey, wet | Severe: $\mathrm{P}_{\mathrm{E}}$ <br> Severe: $P_{\epsilon}$ |
| 4 | Nebish <br> Beltrami <br> Minor soils | $\begin{array}{r} 60 \\ 5 \\ 35 \end{array}$ | $\begin{aligned} & 104 \\ & 3.8 \end{aligned}$ | Fair-poor: Slope <br> Fair: Shrink-swall, wet | Unsuited Unsuited | Poor: Thin, slope <br> Fair: Thin | Slight-sevi Maderate: |
| 5 | Arvilla <br> Sverdrup <br> Minor soils | $\begin{aligned} & 30 \\ & 15 \\ & 55 \end{aligned}$ | $\begin{aligned} & 10 t \\ & 10 t \end{aligned}$ | Good Good | Good <br> Good: Sand | Poor: Thin <br> Poor: Thin | * Slight <br> * Slight-mod <br> * Pollution |
| \% | Forada <br> Arveson <br> Minor soils | $\begin{aligned} & 50 \\ & 15 \\ & 35 \end{aligned}$ | $\begin{aligned} & 2.4 \\ & 1.4 \end{aligned}$ | Poor: Wet <br> Poor: Wet | Good: Wet <br> Good: Sand | Poor: Wet <br> Poor: Wet | Severe: W1 <br> Severe: W/ |
| 7 | Waukon <br> Gonvick <br> Minor soils | $\begin{aligned} & 35 \\ & 25 \\ & 40 \end{aligned}$ | $\begin{aligned} & 10+ \\ & 3-8 \end{aligned}$ | Fair: Shrinknswell <br> Fair: Shrinkuswell, wet | Unsuited Unsuited | Poor: Thin, slope Fair-poor: Thin | Slight-sev <br> Maderate: |
| 8 | Clarion <br> Flom <br> Minor soils | $\begin{aligned} & 30 \\ & 20 \\ & 50 \end{aligned}$ | $\begin{aligned} & 10+ \\ & 2.5 \end{aligned}$ | Fair: Shrink-swell <br> Poor: Frost action, wet | Unsuited Unsuited | Good <br> Poor: Wet | Slight-sev <br> Severe: W1 |
| 9 | Dorset <br> Sioux <br> Minor soils | $\begin{aligned} & 40 \\ & 20 \\ & 40 \end{aligned}$ | $\begin{aligned} & 10^{t} \\ & 10^{t} \end{aligned}$ | Good Good | Good Good | Poor: Thin, fertility <br> Poor: Thin | * Sligh + <br> * Slight <br> * Pollution |

## BILITY FOR SELECTED USES

vesota

| SOIL LIMITATIONS FOR: |  |  | SUITABILITY FOR: | SOIL LIMITATIONS FOR: |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -LOW EXCAVATIONS | DWELLINGS WITH BASEMENTS | LOCAL ROADS AND STREETS | CROPPING | CAMPING-PICNIC AREA | PLAYGROUNDS |
| ght-moderate: Slope derate-severe: Slope | Moderate: Shrink-swell Moderate-severe: Slope | Moderate: Shrink, swell Slight-severe: Slope | Good: Erodible Fair: Erodible | Slight-moderate: Slope Slight-severe: Slope | Slight-severe: Slope <br> Slight-severe: Slope |
| 3ht-severe: Slope 'ere: Wet | Noderate-severe: Slope Severe: Wet | Moderate-severe: Slope Severe: Frost action, wet | Good-poor: Slope Good: Drainage | Slight-severe: Slope Severe: Wet | Slight-severe: Slope Severe: Wet |
| ere: Too clayey <br> ere: Too clayey, wet | Severe: Too clayey <br> Severe: Too clayey, wet | Severe: Frost action <br> Severe: Frost action, wet | Fair: Too clayey <br> Fair: Drainage | Severe: Too clayey <br> Severe: Too clayey, wet | $\begin{aligned} & \text { Severe: Too clayey } \\ & \text { Severe: Too clayey, wet } \end{aligned}$ |
| 3ht-severe: Slope terate: Wet | Moderate-severe: Slope <br> Moderate: Wet, shrink. swell | Moderate-severe: Slope Moderate: Shrink-swell | Good-poor: Slope Good: Erodible | Slight-severe: Slope Slight | Slight-severe: Slope Slight |
| ere: Stability <br> ere: Stability | Slight-moderate: Slope <br> Slight-moderate: Slope | Slight-moderate: Slope <br> Slight-moderate: Slope | Fair: Droughty <br> Fair: Droughty | Slight-moderate: Slope <br> Slight-moderate: Slope | Slight-severe: Slope <br> Slight-severe: Slope |
| ere: Wet <br> 'ere: Wet | Severe: Wet <br> Severe: Wet | Severe: Wet <br> Severe: Wet | Good: Drainage <br> Fair: Drainage | Severe: Wet <br> Severe: Wet | Severe: Wet <br> Severe: Wef |
| ght-severe: Slope terate: Wet | Moderate-severe: Slope <br> Moderate: Wet, shrinkswell | Maderate-severe: Slope Moderate: Shrink-swell | Good-poor: Slope Good: Erodible | Slight-severe: Wet Slight | Slight-severe: Slope Slight |
| ght-moderate: Slope 'ere: Wet | Moderate: Shrink-swell Severe: Wet | Moderate: Shrink-swell Severe: Wet | Good: Erodible <br> Good: Drainage | Slight-moderate: Slope Severe: Wet | Slight-severe: Slope <br> Severe: Wet |
| 'ere: Stability <br> ere: Stability | Slight-moderote: Slope <br> Slight-severe: Slope | Slight-moderate: Slope Slight-severe: Slope | Fair: Droughty <br> Poor: Droughty | Slight-moderate: Slope Slight-severe: Slope | Slight-severe: Slope <br> Slight-severe: Slope |






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Exhibit 4

On USGS Quadrangle Alexandria East, ${ }^{*}$ N 4552.5-W9515/7.5, that area North West of Lake Carlos in Carlos township, T.129N.-R.37W in Sections 8,9,16,17,20,29 \& 32
plus
On US65 Quadrangle Alexandria Nest, \# N4552.5-W9522.5/7.5, that area North of Lakes Darling, Alvin and Louise and South and East of Lake Id a in Ia township. T. 129N.-R. 38 W. in Sections 12,13,24,25,26,35,36 and in Carlos township, T. 129 N.-R.37W. in Sections 7, 18, 19, 30 \& 31 and in LaGrange town ship, T. 128 No-R. 38 W. in Sections 1\%2
plus
On USGS Quadrangle Lake Milton East, "N4600-W9515/7.5, that area South of Lake Milton a in Carlos township, T.129N.-R.37W. in Sections 4, 5, 89 and in Milton township, T.130N.-R.37W. in Sections 32\&33
plus
On USGS Quadrangle Lake Miltona West: N4600-W9522.5/7.5 that area South of Lake Milton and East of Lake Ida Carlos township, T. 129 N.-R. 37 W. in Sections 6 \& 7 and in Ida township. T. 129N. - R. 38 W. in sections 1\& 12 and in Milton township. T. 130N.-R. 37 W. in section 31

## Napa Valley North

## It's not California, but Minnesota is the place for aspiring wineries as local winemakers draw attention with award-winning vintages and seasonal festivities.

By Barb Buchholz

If you don't have plans to visit California's wine country this year, Nan Bailly, master winemaker at Alexis Bailly Vineyard, has a suggestion.

Experience Napa Valley from your own backyard, or, more specifically, from hers. Bailly's 20-acre vineyard is located, not on the West Coast, but five minutes from Hastings. She is also one of several Minnesota wine-making pioneers who have high hopes for the state's future in wine production. Long winters and
 cold climate aside, they predict that Minnesota could someday be the Napa of the North.

Many people are surprised to learn that grapes grow in Minnesota. But according to estimates by the Minnesota Grape Growers Association, the state has more than 100 acres of commercial vineyards and roughly 25 commercial growers. In fact, the association says the sandy soil of the Minnesota and Mississippi river valleys is quite good for viticulture.

The handful of wineries that have emerged in Minnesota during the past 20 years are celebrating their success by opening their doors for wine-tasting events and festivals, adding a new dimension to Minnesota's tourism industry.

## A VIBRANT VINTNER

When attorney David A. Bailly bought 20 acres of winter rye in the early ' 70 s , he aspired to make a great Minnesota wine. He planted the land with French grapes, chosen not for their hardiness, but their flavor.
"He had no doubt he could succeed," said his daughter, Nan, who is now the owner of Minnesota's first winery. "His first year he won a gold medal for his 1977 vintage at the International Wine Competition. It was a nice incentive for him to get that recognition."

Today, Alexis Bailly's wines have won more than 45 national awards. The vineyard's signature wine, and the most highly decorated in national competition, is its Maréchal Foch, a dry, red wine whose grapes are named for the famous French general and hero of World War I.

The award-winning winery releases its new vintage each year during a special open house the first two weekends in June. In the beginning of November the winery hosts its Harvest Celebration, where it will release a new vintage called Nouveau this year.

## GRAPE STOMPING EVENTS

The Alexandria Lakes area is bestknown as a haven for outdoor recreation. But last fall, visitors and residents were treated to something new: the area's first Grape Stomp and Fall Festival, hosted by Carlos Creek Winery, located just north of Alexandria.

The inaugural Grape Stomp was a success, with a turnout of almost 8,500 people. This year, owner Bob Johnson expects a crowd of 12,000 . After all, who wouldn't want to climb into a barrel of ripe, red grapes and stomp to their heart's content? The 2001 Grape Stomp is set for Sept. 14-16.

Carlos Creek Winery, which opened to the public in 1999, has the largest grape vineyards in Minnesota. Like most of Minnesota's wine-producing pioneers, Johnson didn't have the mind-set of "you can't grow grapes here." However, he does admit that it's a laborintensive process to cover the vines with dirt to keep them from freezing during the winter. The winery also maintains an orchard of 8,000 apple trees, lending itself to the production of apple wine and hard apple cider in addition to grape wines.

In addition to its signature stomping event, Carlos Creek offers tours, tastings and wine dinners for groups. This summer, there's a series of free outdoor concerts on Sunday afternoons.

## FINE WINE AND ART

Visitors to historic Stillwater can take a break from the antique shops that line Main Street by relaxing and enjoying a taste of locally produced wine at the Northern Vineyards Winery and at its salesroom, located downtown.

The winery is owned and operated by the grape growers of the Minnesota Winegrowers Cooperative, whose members have small one- to five-acre vineyards scattered throughout Minnesota and western Wisconsin.

Winemaker Robin Partch said the co-op, which was formed in 1983, is the only one of its kind in the United States.

The Northern Vineyards Winery moved to its present location in 1999, doubling retail space from its previous spot on Main Street. In addition to wine tasting, visitors can enjoy fine art in the showroom gallery, which has featured quilt, watercolor and photography exhibits.

According to Partch, the winery's signature wine is its St. Croix, a dry red table wine made with the locally developed St. Croix grape. The winery and showroom are open year-round.

## CELEBRATING SEASONS

Minnesota's only underground winery, Morgan Creek Vineyards, has been open for just two years near New Ulm. But word of mouth and the marketing know-how of its owners, Georg and Paula Marti, have attracted crowds of tourists. Visitors come to taste the wine and enjoy the winery's seasonal festivities.
"We're very interested in celebrating," said Georg, whose great-great-grandfather is

August Schell, the man who founded Schell Brewing Company in New Ulm. And celebrate they do, with a series of events throughout the year.

In May is the Bacchus Festival, an outdoor experience including culinary and performing arts, plus artisan exhibits and sales. On July 14-15 and July 21-22, the winery will host a German wine festival, and on Oct. 6 it will hold the Cambria Crush grape stomp.
"That event drew almost 700 people the first year it was held, despite a very Minnesota start," said Marti, who recalled the 6 inches of snow on the ground. "But we persevered."

It's no wonder the winery is getting plenty of support from the surrounding communities and their residents.
"Half of our business is local people, and of course they bring relatives and visitors," Marti said. "They tell us they're pleased to see someone is doing this in the area."

Barb Buchholz is manager of communications for AAA Minnesota/Iowa.
BEFORE YOU GO: Contact your local AAA office to obtain a map, TourBook guide and TripTik routing to help plan your own tour of the wineries and vineyards in Minnesota.

## Minnesota Wineries

Alexis Bailly Vineyard - located five minutes from Hastings, off U.S. Highway 61. Open June through mid-November. Tastingroom hours: 11 a.m. to 5 p.m. Friday-Sunday. (651) 437-1413 http://www.abvwines.com/.

Carlos Creek Winery - located two miles north of Alexandria on 6693 County Road NW. Open year-round from 11 a.m. to 6 p.m. Monday-Saturday; noon to 6 p.m. Sunday. (320) 846-5443http://www.carloscreekwinery.com/.

Luedke Vineyards - located eight miles west of Princeton. Open year-round from 1 p.m. to 7 p.m. Monday-Saturday; 1 p.m. to 5 p.m. Sunday. (763) 662-2389.

Minnesota Wild Winery - located outside of McGregor. Open for tastings and tours from 10 a.m. to 5 p.m. Monday-Saturday; noon to 5 p.m. Sunday. (800) 328-6731.

Morgan Creek Vineyards - located south of New Ulm. Open May through December from 11 a.m. to 9 p.m. Friday-Saturday; noon to 5 p.m. Sunday. January through April by appointment only. (507) 947-3547; e-mail: martiMCV@aol.com.

Northern Vineyards Winery - located at 223 N. Main St. in Stillwater. Open for tasting year-round from 10 a.m. to 5 p.m. Monday-Saturday; noon to 5 p.m. Sunday. (651) 430-1032http://www.northernvineyards.com/.

Saint Croix Vineyards - located at 6428 Manning Ave. in Stillwater. Tasting room open April through July from noon to 6 p.m. Friday-Sunday; daily August through December, please call ahead for hours. Private tours are available by appointment. (651) 430-3310-http://www.SCVWines.com/.

Scenic Valley Winery - located in Minnesota's Historic Southeast Bluff Country in Lanesboro. Tastings are from 10 a.m. to 5 p.m. Monday-Saturday; noon to 5 p.m. Sunday. (507) 467 2958.

WineHaven Winery and Vineyard - located at 9757 292nd St. in Chisago City. Open for tasting April through December from 10 a.m. to 5 p.m. Thursday - Saturday; noon to 5 p.m. Sunday. Open January through March from noon to 4 p.m. Saturday. (651) 257-1017-http://www.winehaven.com/.

## Return to Archives

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## Additional Boundary Evidence




# Carlos Creek Winery 

## DESCRIPTION

## ALEXANDRIA LAKES VITICULTURAL AREA

(a) Boundaries. The Alexandria lakes viticultural area is located in Douglas County, Minnesota and is encompassed by 6 fresh water lakes in an area of approximately 17 square miles. The boundary for Alexandria lakes viticultural area is as follows:
(1) The beginning point for the area is located on Douglas County road 11 and 34 at the Douglas County Bridge between Lake Carlos and Lake Darling referred to as the Carlos-Darling Bridge.
(2) From the Carlos-Darling Bridge, the boundary follows North then East along the shore of Lake Carlos approximately 10 miles through Carlos State Park to the Road intersection of Douglas County road 38 at the State Park entrance.
(3) The boundary continues North on Douglas County road 38 to North on County road 62 then continuing North on Buckskin road.
(4) The boundary proceeds North in a straight line from a point where Buckskin road turns East to the shoreline of Lake Milton.
(5) The boundary follows the Lake Miltona shoreline in a Westerly direction approximately 5 miles to a point where Krohnfeldt Drive and Miltona shoreline begin to parallel at their shortest distance.
(6) The boundary follows Krohnfeldt Drive West to Douglas County road 34 the South to where County road 34 runs parallel to the Lake Ida Shoreline.
(7) The Boundary continues South along the East Shore of Lake Ida to the point where Burkeys Lane road and Sunset Strip road intersect.
(8) The Boundary follows Sunset Strip Road South to the intersection of Douglas County Road 104.
(9) Finally the Boundary follows North then East on County Road 104 to County Road 34. East on County road 34 to the Boundary start point at the Carlos-Darling Bridge.

Dated March 26, 2002

6693 County Road 34 NW • Alexandria, MN 56308
Tel: (320)846-5443 • Fax: (320)763-9290
E-Mail:ccwinery@carloscreekwinery.com Website: www.carloscreekwinerv.com

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## Driving Directions

- To this location

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## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

```
Target location is DOUGLAS LAKE MARY 127N 38W S23
Lat: 45.79613 Lon: 95.42229
    set location
Tretrieve only this station: 210110 ALEXANDRIA च
years:1992 - to 2002 च
number of missing days allowed per month: 3
retrieve data from the following data sources:
    V Precipitation from High Density Network (last update - December 2001)
IV Precipitation from National Weather Service (last update - October 2001)
V Temperature from National Weather Service (last update - October 2001)
V Snow from National Weather Service (last update - October 2001)
get monthly get daily
```



| 1994 May |  | 210112 | 1.74210112 | 70.9 | 47.5 | 210112 | 0 |  | mi. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1994 Jun |  | 210112 | 1.49210112 | 77.6 | 57.6 | 210112 | 0 | 0 | mi. |
| 1994 Ju1 |  | 210112 | 3.37210112 | 77.2 | 59.5 | 210112 | 0 |  | m |
| 1994 Aug |  | 210112 | 2.35210112 | 75.4 | 56.5 | 210112 | 0 | 0 | 5 m |
| 1994 Sep |  | 210112 | 2.26210112 | 70.7 | 52.1 | 210112 | 0 | 0 | 5 mi |
| 1994 Oct |  | 210112 | 3.76210112 | 56.8 | 41.4 | 210112 | 0 | 0 | m- |
| 1994 Nov |  | 210112 | . 82210112 | 42.0 | 26.2 | 210112 | 4.2 | . 4 | m |
| 1994 Der |  | 210112 | . 40210112 | 27.6 | 13.3 | 210112 | 4.9 | 3.7 | mi. |
| 1995 Jan |  | 210112 | 1.05210112 | 19.8 | 3.5 | 210112 | -6.4 | 3.8 | mi. |
| 1995 Feb |  | 210112 | . .58210112 | 23.2 | 2.4 | 210112 | 8.4 | 7.0 | mi. |
| 1995 Mar |  | 210112 | 1.87210112 | 37.1 | 21.7 | 210112 | - 15.3 | 4.9 | 5 mi . |
| 1995 Apr |  | 210112 | 1.75210112 | 45.5 | 29.3 | 210112 | - 6.5 | . 3 | 5 mi . |
| 1995 may |  | 210112 | 2.81210112 | 64.2 | 44.5 | 210112 | - 0 | 0 | 5 mi . |
| 1995 Jun |  | 210112 | 2.92210112 | 80.1 | 59.6 | 210112 | 0 | 0 | 5 mi . |
| 1995 Ju7 |  | 210112 | 5.22210112 | 79.9 | 60.7 | 210112 | 0 | 0 | 5 mi . |
| 1995 Aug |  | 210112 | 4.75210112 | 80.0 | 62.5 | 210112 | 0 | 0 | 5 mi . |
| 1995 Sep |  | 210112 | 4.84210112 | 67.8 | 48.1 | 210112 | 0 | 0 | 5 mi . |
| 1995 Oct |  | 210112 | 2.39210112 | 50.7 | 37.5 | 210112 | - 6.0 | 1 | 5 mi . |
| 1995 Nov |  | 210112 | . 31210112 | 30.1 | 16.1 | 210112 | - 4.4 | 5 | mi. |
| 1995 Dec |  | 210112 | . 68.213174 | 24.9 | 10.4 | $213174{ }^{\circ}$ | - 12.5 | 8.5 | 6 mi . |
| 1996 Jan |  | 210112 | . 81213174 | 14.4 | -4.5 | $213174{ }^{\text {2 }}$ | - 23.0 | 13.6 | 6 mi . |
| 1996 Feb |  | 210112 | .29213174 | 25.1 | 6.4 | 213174 | + 5.3 | 17.5 | mi. |
| 1996 Mar |  | 210112 | .22213174 | 32.6 | 14.3 | 213174 | - 8.0 | 5.9 | 6 mi . |
| 1996 Apr |  | 210112 | . 41213174 | 51.9 | 26.3 | 213174 | - 3.3 | . 1.1 | mi. |
| 1996 may | 21128 N 38W 22 SWCD |  | 3.24213174 | 65.6 | 42.2 | 213174 |  | 0 | 6 mi . |
| 1996 Jun | 21128 N 38W 22 SWCD |  | 2.95213174 | 79.5 | 54.7 | 213174 | 0 | 0 | 6 mi . |
| 1996 Jul | 21128 N 38 W 22 SWCD |  | 2.37213174 | 80.0 | 56.2 | 213174 | 0 | 0 | 6 mi . |
| 1996 Aug | 21 128N 38W 22 SWCD |  | 1.64213174 | 82.9 | 57.6 | 213174 | 0 | 0 | 6 mi . |
| 1996 Sep |  | 210112 | 3.65213174 | 71.9 | 46.9 | 213174 | 0 | 0 | 6 mi . |
| 1996 Oct | 21128 N 38 W 22 SWCD |  | 4.73213174 | 60.5 | 36.1 | 213174 | 0 | 0 | 6 mi . |
| 1996 Nov |  | 210112 | . 85213174 | 35.8 | 9.8 | 213174 | -13.5 |  | 6 mi . |
| 1996 Dec |  | 210112 | . 15213174 | 18.8 | 4.0 | 213174 | -11.0 | 13.9 | 6 mi . |
| 1997 Jan |  | 213174 | 1.63213174 | 14.6 | -1.2 | 213174 | - 30.5 | 26.4 | 8 mi . |
| 1997 Feb |  | 213174 | . 18213174 | 27.6 | 10.3 | 213174 | - 3.5 | 28.0 | 8 mi . |
| 1997 Mar |  | 213174 | 1.15213174 | 35.1 | 18.3 | 213174 | -14.5 | 29.1 | 8 mi . |
| 1997 Apr |  | 213174 | 1.23213174 | 52.8 | 30.3 | 213174 | - 2.0 | . 9 | 8 mi . |
| 1997 May | 61 126N 38W 27 SWCD |  | 1.54213174 | 65.9 | 38.8 | 213174 |  |  | 7 mi . |
| 1997 Jun | 21 128N 38W 22 SWCD |  | 2.12213174 | 82.3 | 55.1 | 213174 |  |  | 6 mi . |
| 1997 Jul | 61 126N 38W 27 SWCD |  | 5.28213174 | 81.5 | 56.7 | 213174 | 0 |  | 7 mi . |
| 1997 Aug | 21 128N 38W 22 SWCD |  | 4.38213174 | 79.5 | 56.5 | 213174 | 0 | 0 | 6 mi . |
| 1997 Sep | 21 128N 38W 22 SWCD |  | 1.88213174 | 76.6 | 49.4 | 213174 |  | 0 | 6 mi . |
| 1997 Oct | 21 128N 38W 22 SWCD |  | 1.89213174 | 62.5 | 34.7 | 213174 | -1.0 | 0 | 6 mi . |
| 1997 Nov |  | 213174 | . 38213174 | 35.6 | 17.1 | 213174 | - 8.5 | 7 | 8 mi . |
| 1997 Dec | 21129 N 37 W 32 SWCD |  | . 15.213174 | 33.4 | 17.1 | 213174 | - 6.0 | 4 | 10 mi |
| 1998 Jan | 21127 N 38 W 26 SWCD |  | 95213174 | 23.7 | 4.2 | 213174 | -18.5 |  | 1 mi . |
| 1998 Feb | 21127 N 38 W 26 SWCD |  | . 57213174 | 37.2 | 21.8 | 213174 | -1.0 | 6.7 | 1 mi . |
| 1998 Mar | 21127 N 38 W 26 SWCD |  | 1.23213174 | 37.1 | 20.1 | 213174 | : 5.0 |  | 1 mi . |
| 1998 Apr | 21 127N 38W 26 SWCD |  | . 93213174 | 63.5 | 35.4 | 213174 | -5.0 |  | 1 mi . |
| 1998 May | 21127 N 38W 26 SWCD |  | 3.98213174 | 77.1 | 48.8 | 213174 |  |  | 1 mi . |
| 1998 Jun | 21 127N 38W 26 SWCD |  | 4.46213174 | 74.3 | 52.1 | 213174 | 0 |  | 1 mi . |
| 1998 JuT | 21127 N 38W 26 SWCD |  | 4.87213174 | 82.8 | 59.4 | 213174 | 0 |  | 1 mi . |
| 1998 Aug | 21127 N 38W 26 SWCD |  | 2.20213174 | 84.2 | 57.6 | 213174 | 0 |  | 1 mi . |
| 1998 Sep | 21127 N 38W 26 SWCD |  | . 57213174 | 79.1 | 51.6 | 213174 | 0 |  | 1 mi . |
| 1998 OCt | 21 127N 38W 26 SWCD |  | 5.03213174 | 61.3 | 39.5 | 213174 | 0 |  | mi. |
| 1998 Nov | 21127 N 38W 26 SWCD |  | . 59213174 | 42.2 | 25.8 | 213174 | 3.0 | 1.2 | mi. |
| 1998 DeC | 21127 N 38 W 26 SWCD |  | 10213174 | 35.8 | 11.0 | 213174 | - 3.0 | 1 | mi. |
| 1999 Jan | $21127 N 38 W 26$ SWCD |  | . 95213174 | 18.2 | 2.3 | 213174 | -20.0 | 9.4 | mi. |
| 1999 Feb | 21127 N 38 W 26 SWCD |  | 0213174 | 35.1 | 20.0 | 213174 | - 1.5 | 4.7 | 1 mi . |
| 1999 mar |  | 210112 | . 83210112 | 39.2 | 21.92 | 213174 | - 6.5 | . 7 | 5 mj . |
| 1999 Apr | 21 127N 38W 26 SWCD |  | 1.66210112 | 53.5 | 35.12 | 213174 | - 1.0 |  | 1 mi . |
| 1999 May | 21 127N 38W 26 SWCD |  | 4.14210112 | 66.0 | 47.32 | 213174 |  | 01 | 1 mi . |
| 1999 Jun | 21 127N 38W 26 SWCD |  | 4.04210112 | 74.2 | 56.0 | 213174 | 0 |  | 1 mi . |
| 1999 Ju7 | 21127 N 38W 26 SWCD |  | 3.25210112 | 82.7 | 61.52 | 213174 | 0 |  | 1 mi . |
| 1999 Aug | 21127 N 38W 26 SWCD |  | 3.40210112 | 77.6 | 58.52 | 213174 | 0 | 01 | 1 mi . |
| 1999 Sep | 21 127N 38W 26 SWCD |  | 4.10210112 | 65.7 | 46.8 | 213174 | 0 | 01 | 1 mi . |
| 1999 Oct | 21 127N 38W 26 SWCD |  | . 40210112 | 55.8 | 34.22 | 213174 | 0 | 01 | 1 mi . |
| 1999 Nov |  | 210112 | . 05210112 | 47.6 | 27.52 | 213174 |  |  | 5 mi . |
| 1999 Dec |  | 210112 | .07-210112 | 30.7 | 12.92 | 213174 | 5.0 | 1.15 | 5 mi . |
| 2000 Jan |  | 210112 | . 08210112 | 19.5 | . 32 | 213174. | 11.0 | 4.05 | 5 mi . |
| 2000 Feb |  | 210112 | . 78210112 | 30.8 | 13.62 | 213174 。 | - 8.0 | 5.05 | 5 mi . |
| 2000 Mar | 21 127N 38W 26 SWCD |  | 1.17210112 | 46.4 | 26.32 | 213174 | 0 | 01 | 1 mi . |
| 2000 Apr | 21127 N 38W 26 SWCD |  | 1.24210112 | 53.2 | 32.02 | 213174 | m | 11 | 1 mi . |
| 2000 May | 21 127N 38W 26 SWCD |  | 3.22210112 | 68.1 | 46.52 | 213174 | 0 | 01 | 1 mi . |
| 2000 Jun | 21 127N 38W 26 SWCD |  | 3.57210112 | 72.1 | 51.52 | 213174 | 0 | 01 | 1 mi . |


| 2000 Ju1 | 21127 N 38 W 26 | SWCD |  | 5.67 | 210112 | 78.4 | 59.7 | 2131740 |  | mi. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2000 Aug | 21127 N 38 W 26 | SWCD |  | 1.83 | 210112 | 79.6 | 57.9 | 2131740 | 0 | 1 mi . |
| 2000 Sep | 21127 N 38 W 26 | SWCD |  | 1.05 | 210112 | 70.6 | 44.9 | 2131740 | 0 | 1 mi . |
| 2000 Oct | 21127 N 38 W 26 | SWCD |  | 2.68 | 210112 | 58.1 | 38.3 | 213174 0 | 0 | 1 mi . |
| 2000 Nov | 21 127N 38W 26 | SWCD |  | 2.37 | 210112 | 32.7 | 20.9 | 213174 - 7.5 | 1.4 | 1 mi . |
| 2000 Dec |  |  | 210112 |  | 210112 | 9.3 | -6.5 | $213174 \cdot 15.5$ | 6.2 | 5 mi . |
| 2001 Jan |  |  | 210112 | . 55 | 210112 | 23.8 | 6.7 | 213174 - 8.0 | 8.7 | 5 mi . |
| 2001 Feb |  |  | 210112 | . 41 | 210112 | 15.3 | -6.2 | $213174 \cdot 22.0$ | 20.0 | 5 mi . |
| 2001 Mar |  |  | 210112 | . 28 | 210112 | 30.3 | 13.7 | 213174 , 6.5 | 19.8 | mi. |
| 2001 Apr | 21 127N 38W 26 | SWCD |  | 6.76 | 210112 | 51.8 | 33.7 | 2131740 | 1 | 1 mi . |
| 2001 May | 21127 N 38 W 26 | SWCD |  | 2.35 | 210112 | 66.9 | 47.2 | 2131740 | 0 | 1 mi . |
| 2001 Jun | 21127 N 38 W 26 | SWCD |  | 4.91 | 210112 | 75.4 | 56.0 | 2131740 | 0 | 1 mi . |
| 2001 Ju7 | 21127 N 38 W 26 | SWCD |  | 3.10 | 210112 | 81.6 | 62.4 | 2131740 | 0 | 1 mi . |
| 2001 Aug | 21 127N 38W 26 | SWCD |  | 1.48 | 210112 | 82.4 | 58.6 | 2131740 |  | mi. |
| 2001 Sep |  |  | 210112 | 1.84 | 210112 | 67.3 | 48.5 | 213174 - 0 | 0 | mi . |
| 2001 Oct |  |  | 210112 | 1.11 | 210112 | 55.0 | 35.5 | 213174 2.0 | . 1 | mi. |
| 2001 Nov |  |  | 210112 |  | 210112 | 49.2 | 31.7 | 213174 - 11.0 | 1.4 | mi. |
| 2001 Dec |  |  | 213174 |  | 210112 | m | m | 213174 - 4.0 | 2.1 | mi. |
| 2002 Jan |  |  | 213174 |  | 210112 | m | m |  | 10 mi . |  |
| 2002 Feb |  |  | 213174 | . 65 | 210112 | m | m | $m \quad \mathrm{~m}$ | 10 mi . |  |
| 2002 Mar |  |  | 215638 | m | 210112 | m | m | $\mathrm{m} \quad \mathrm{m}$ | 26 mi . |  |
| 2002 Apr |  | m | m | m | m | m 99 | mi. | $\mathrm{m} \times \mathrm{m}$ |  |  |
| 2002 May |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Jun |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Ju7 |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Aug |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Sep |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Oct |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Nov |  | m | m | m | m | m 99 | mi. |  |  |  |
| 2002 Dec |  | m | m | m | m | m 99 | mi. |  |  |  |

Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as ' - '. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)
return to retrieval selection

State Climatology Office - MnDNR - Waters, 1996-2001
You can send e-mail to the State Climatology Office.

## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

Target location is DOUGLAS CARLOS 129N 37W S8
Lat: 45.99968 Lon: 95.37305
set location
$\Gamma$ retrieve only this station: 210116 ALEXANDRIA WASTEWAT
years: $1992-$ to 2002
number of missing days allowed per month: 3
retrieve data from the following data sources:
$\sqrt{7}$ Precipitation from High Density Network (last update - December 2001)
$\sqrt{V}$ Precipitation from National Weather Service (last update - October 2001)
$\sqrt{V}$ Temperature from National Weather Service (last update - October 2001)
$\sqrt{ } \sqrt{ }$ Snow from National Weather Service (last update - October 2001)


|  |  | 29 R37 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| year |  | cc tttN r | rrw ss n | nnnn | 00000000 | pre | aaaaaa | Tmx |  | aaaaa | sno |  |  |
| 1992 | Jan |  |  |  | 210112 | . 87 | 210112 | 26.1 | 9.6 | 210112 | - 9.2 | 5.0 | 9 mi . |
| 1992 | Feb |  |  |  | 210112 | 36 | 210112 | 30.9 | 17.0 | 210112 | -3.6 |  | 9 mi . |
| 1992 | Mar |  |  |  | 210112 | 1.60 | 210112 | 39.2 | 23.4 | 210112 | -3.1 |  | 9 mi . |
| 1992 | Apr | 21 130N | 37w 21 | SWCD |  | 2.34 | 210112 | 49.5 | 32.2 | 210112 | - 7.7 |  | 4 mi . |
| 1992 | May | 21 130N | 37w 21 | SWCD |  | 1.61 | 210112 | 70.9 | 47.2 | 210112 | - 0 |  | 4 mi . |
| 1992 | Jun | 21 130N | 37w 21 | SWCD |  | 4.53 | 210112 | 71.9 | 53.8 | 210112 | 0 |  | 4 mi . |
| 1992 | Ju7 | 21 130N | 37W 21 | SWCD |  | 3.34 | 210112 | 72.2 | 54.9 | 210112 | 0 |  | 4 mi . |
| 1992 | Aug | 21 130N | 37W 21 | SWCD |  | 2.35 | 210112 | 74.0 | 55.5 | 210112 | 0 |  | 4 mi . |
| 1992 | Sep | 21 130N | 37w 21 | SWCD |  | 1.54 | 210112 | 69.6 | 46.8 | 210112 | 0 |  | 4 mi . |
| 1992 | Oct | 21 130N | 37W 21 | SWCD |  | . 24 | 210112 | 54.4 | 35.7 | 210112 |  |  | 4 mi. |
| 1992 | Nov |  |  |  | 210112 | . 65 | 210112 | 30.9 | 23.3 | 210112 | - 7.7 | 3.2 | 9 mi. |
| 1992 | Dec |  |  |  | 210112 | 1.01 | 210112 | 20.8 | 6.3 | 210112 | -10. |  | 9 mi . |
| 1993 | Jan |  |  |  | 210112 | 1.01 | 210112 | 18.5 | -. 5 | 210112 | -10.8 | 15.3 | 8 mi . |
| 1993 | Feb |  |  |  | 210112 | . 18 | 210112 | 20.6 | 4.4 | 210112 | -1.8 | 11.1 | 8 mi . |
| 1993 | Mar |  |  |  | 210112 | 1.59 | 210112 | 34.8 | 15.7 | 210112 | - 5.9 | 6.7 | 8 mi . |
| 1993 | Apr | 21 130N | 37w 21 | SWCD |  | 2.60 | 210112 | 52.0 | 32.0 | 210112 |  |  | 4 mi . |
| 1993 | may | 21 129N | 37W 32 | SWCD |  | 5.18 | 210112 | 64.8 | 46.2 | 210112 | - 0 |  | mi . |
| 1993 | Jun | 21 129N | 37W 32 | SWCD |  | 3.23 | 210112 | 70.2 | 53.7 | 210112 | 0 |  | mi. |
| 1993 | Ju7 | 21 129N | 37W 32 | SWCD |  | 5.71 | 210112 | 75.6 | 59.5 | 210112 |  |  | mi. |
| 1993 | Aug | 21 130N | 37W 21 | SWCD |  | 3.97 | 210112 | 77.0 | 59.1 | 210112 |  |  | mi. |
| 1993 | Sep | 21 129N | 37W 32 | SWCD |  | 1.13 | 210112 | 63.9 | 43.3 | 210112 |  |  | mi. |
| 1993 | Oct | 21 129N | 37W 32 | SWCD |  | . 23 | 210112 | 53.4 | 33.3 | 210112 | ${ }^{0}$ |  | mi. |
| 1993 | Nov |  |  |  | 210112 | 1.37 | 210112 | 32.5 | 19.2 | 210112 | 8.7 | 1.9 | mi. |
| 1993 | Dec | 21129 N | 37W 32 | SWCD |  | . 95 | 210112 | 23.5 | 8.7 | 210112 | 9.7 | 9. | mi . |
| 1994 | Jan |  |  |  | 210112 | . 59 | 210112 | 5.5 | 10.5 | 210112 | -17.0 | 20.5 | mi . |
| 1994 | Feb |  |  |  | 210112 | . 56 | 210112 | 16.9 | -1.5 | 210112 | - 8.1 | 20.3 | 8 mi . |
| 1994 | Mar | 21 129N | 37W 32 | SWCD |  | . 84 | 210112 | 38.1 | 22.4 | 210112 | - 4.9 | 4.5 | mi. |
| 1994 | Apr | 21 129N | 37w 32 | SWCD |  | 2.85 | 210112 | 53.6 | 32.2 | 210112 | -3.5 | . 2 | mi. |




Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as ' - '. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)
return to retrieval selection

State Climatology Office - MnDNR - Waters, 1996-2001
You can send e-mail to the State Climatology Office.

## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

```
Target location is DOUGLAS OSAKIS 128N 36W S3
Lat: 45.93193 Lon: 95.18248
    set location
    \Gamma retrieve only this station: 216235 OSAKIS
years: 1992 - to 2002 -
number of missing days allowed per month: 3
retrieve data from the following data sources:
V Precipitation from High Density Network (last update - December 2001)
\checkmark Precipitation from National Weather Service (last update - October 2001)
\ Temperature from National Weather Service (last update - October 2001)
V Snow from National Weather Service (last update - October 2001)
    get monthly get daily
```





Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as ' - '. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)
return to retrieval selection

State Climatology Office - MnDNR - Waters, 1996-2001
You can send e-mail to the State Climatology Office.

## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

```
Target location is DOUGLAS EVANSVILLE 129N 40W S3
Lat: 46.01066 Lon: 95.69000
    set location
    Tretrieve only this station: 210300 ASHBY च
years:1992 च to 2002 च
number of missing days allowed per month: }
retrieve data from the following data sources:
    V Precipitation from High Density Network (last update - December 2001)
V Precipitation from National Weather Service (last update - October 2001)
v Temperature from National Weather Service (last update - October 2001)
v Snow from National Weather Service (last update - October 2001)
get monthly get daily
```





Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as ' - '. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)

> return to retrieval selection

State Climatology Office - MnDNR - Waters, 1996-2001
You can send e-mail to the State Climatology Office.

## Minnesota location selector

To set a location click in map or fill in values and click 'update locs'.


## Minnesota location selector

To set a location click in map or fill in values and click 'update locs'.


State Climatology Office - MnDNR - Waters, 1999 Latitude/Longitude and UTM values are all NAD83. mail: State Climatology Office

## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

Target location is DOUGLAS CARLOS 129N 37W S17
Lat: 45.98170 Lon: 95.37228

## set location

[ retrieve only this station: 21016 ALEXANDRIA WASTEWAT
years $\square$
number of missing days allowed per month:
retrieve data from the following data sources:
$\sqrt{V}$ Precipitation from High Density Network (last update - December 2001)
$\nabla$ Precipitation from National Weather Service (last update - October 2001)
T Temperature from National Weather Service (last update - October 2001)
F Snow from National Weather Service (last update - October 2001)


Target: T129 R37 S17
year $m$ cc tttN rrW ss nnnn 00000000 1999 Jan 21127 N 38 W 26 SWCD 1999 Feb 21 129N 37W 32 SWCD
1999 Mar $21128 \mathrm{~N} 37 \mathrm{~W} \quad 4 \mathrm{SWCD}$
1999 May 21 129N 37W 32 SWCD 1999 Jun 21129 N 37W 32 SWCD 1999 Jul 21128 N 37 W 4 SWCD 1999 Aug 21129 N 37W 32 SWCD 1999 Sep 21 129N 38W 26 SWCD 1999 Oct 21129 N 37 W 32 SWCD 1999 Nov 21129 N 37 W 32 SWCD 1999 Dec 2000 Jan -

2000 Mar 21128 N 37 W 30 SWCD
2000 Apr 21128 N 37 W 4 SWCD
2000 May 21129 N 37 W 32 SWCD
2000 Jun 21128 N 37 W 4 SWCD
2000 Jul 21128 N 37 W 4 SWCD
2000 Aug 21 129N 37W 32 SWCD
2000 Sep 21128 N 37 W 4 SWCD
2000 Oct 21128 N 37 W 4 SWCD
2000 Nov
2000 Dec
2001 Jan
2001 Feb
2001 Mar
2001 Apr 21 128N 37W 4 SWCD
2001 May 21129 N 37 W 32 SWCD
2001 Jun 21128 N 37 W 4 SWCD
2001 Jul 21128 N 37 W 4 SWCD
2001 Aug 21129 N 37 W 32 SWCD
http://climate.umn.edu/hidradius/radius.asp

| 2001 Oct | 21 | 128 N | 37W | 4 | SWCD |  | 1.50 | 210112 | 55.0 | 35.5 | 213174 | 2.0 | 0 | $\stackrel{7}{4} \mathrm{mi}$. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2001 Nov | 21 | 128 N | 37 W | 17 | SWCD |  | 1.11 | 210112 | 49.2 | 31.7 | 213174 | 11.0 | 1.4 | 5 mi . |
| 2001 Dec |  |  |  |  |  | 210112 | . 21 | 210112 | 28.3 | 14.7 | 213174 | 4.0 | 2.7 | 7 mi . |
| 2002 Jan |  |  |  |  |  | 210112 | 0 | 210112 | 27.1 | 10.7 | 213174 | 2.5 | . 5 | 7 mi . |
| 2002 Feb | 21 | 129 N | 37W | 32 | SWCD |  | . 65 | 210112 | 34.2 | 15.2 | 213174 | 6.0 | 1. 3 | 2 mi . |
| 2002 Mar | 77 | 129 N | 35 W | 12 | SWCD |  | 1.47 | 210112 | 25.3 | 9.8 | m | m | 16 mi . |  |
| 2002 Apr |  |  |  |  |  | 215638 | m | 210112 | 50.9 | 32.7 | m |  | 36 mi . |  |
| 2002 May |  |  |  |  |  | 210112 | m | 210112 | m | m | m | m | 7 mi . |  |
| 2002 Jun |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |
| 2002 Jul |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |
| 2002 Aug |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |
| 2002 Sep |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |
| 2002 Oct |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |
| 2002 Nov |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |
| 2002 Dec |  |  |  |  | m | m | m | m | m 99 | 9 mi |  |  |  |  |

Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as '--'. 'TTTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)
return to retrieval selection

State Climatology Office - MnDNR - Waters, 1996-2001
You can send e-mail to the State Climatology Office.

# North St.Paul, Minnesota Climatology 

## Normal and Extremes for the Period 1962-1995

Latitude 450136 North Longitude 930023 West Elevaton 982 MSL (299 Meters)
Townstip 29 North 22 West

JA $\quad \mathrm{FB}$ MA $\quad$ AP $\quad$ MY $\quad \mathrm{J} \quad \mathrm{JY}$ AU $\quad$ SP
Temperature (f)

| Month Mean | 11.5 | 17.4 | 30.4 | 45.5 | 58.0 | 66.8 | 71.5 | 68.9 | 59.4 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mean Max | 20.7 | 27.0 | 39.9 | 56.4 | 69.2 | 77.7 | 82.1 | 79.3 | 69.5 |
| Mean Min | 2.3 | 7.8 | 20.9 | 34.6 | 46.7 | 56.0 | 61.0 | 58.6 | 49.2 |
| Hottest | 55 | 58 | 83 | 93 | 93 | 99 | 102 | 99 | 97 |
| Year | 1981 | 1981 | 1986 | 1980 | 1969 | 1985 | 1988 | 1988 | 1978 |
| Coldest | -30 | -33 | -17 | 3 | 19 | 33 | 44 | 38 | 26 |
| Year | 1994 | 1996 | 1962 | 1995 | 1907 | 1964 | 1972 | 1964 | 1974 |

## Precipitation (in)

Month Mean<br>Most Ever<br>Least Ever

## Snowfall (in)

| Month Mean | 12.2 | 8.6 | 11.2 | 3.3 | T | 0.0 | 0.0 | 0.0 | T |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Most Ever | 39.0 | 25.0 | 36.3 | 25.8 | 0.4 | 0.0 | 0.0 | 0.0 | T |
| Least Ever | 1.7 | 0.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Mean Days With

Thunder
Fog
Precipitation
$\begin{array}{lllllllll}0.1 & 0.2 & 1.1 & 2.4 & 5.1 & 7.6 & 7.5 & 6.5 & 4.5\end{array}$
$\begin{array}{lllllllll}2.7 & 2.9 & 3.3 & 2.5 & 2 & 1.2 & 1.8 & 2.7 & 3.1\end{array}$
$\begin{array}{lllllllll}8.4 & 6.3 & 9.0 & 10.9 & 12.2 & 11.6 & 10.2 & 10.3 & 10.4\end{array}$

## MONTHLY PRECIPI7 NORTH ST.PAUL, N



## North St. Paul,Mn Climatological Summary for 1997

## North St:Paul,Mn - Climatological Summary for 1997

Avg Max Avg Min Mean Dep Precip Dep Snowfall Max Min

| January | 20.3 | 3.0 | 11.7 | +.1 | 2.09 | +1.11 | 15.8 | 40 | -16 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| February | 30.3 | 13.5 | 21.9 | +4.1 | .18 | -.59 | 4.2 | 49 | -3 |
| March | 39.7 | 21.6 | 30.7 | +.3 | 1.68 | -.34 | 15.5 | 66 | -5 |
| April | 55.5 | 32.5 | 44.0 | -1.6 | .84 | -2.02 | .3 | 71 | 7 |
| May | 64.5 | 42.4 | 53.5 | -4.5 | 2.01 | -1.62 | $T$ | 82 | 29 |
| June | 79.5 | 58.7 | 69.1 | +2.1 | 5.22 | +.60 | 0 | 90 | 51 |
| July | 78.1 | 61.4 | 69.8 | -1.8 | 8.18 | +4.08 | 0 | 92 | 48 |
| August | 76.3 | 58.7 | 67.5 | -1.5 | 5.41 | +1.50 | 0 | 90 | 50 |
| September | 71.1 | 52.8 | 62.0 | +2.5 | 3.53 | +.31 | 0 | 85 | 40 |
| October | 59.8 | 40.9 | 50.4 | +2.2 | 2.55 | -.04 | .2 | 88 | 15 |
| November | 35.2 | 22.0 | 28.6 | -3.5 | .61 | -1.11 | 11.1 | 47 | 3 |
| December | 33.7 | 20.6 | 27.2 | +9.6 | .24 | -.85 | 3.6 | 48 | -4 |
|  |  |  |  |  |  |  |  |  |  |
| Year | 53.7 | 35.7 | 44.7 | +.8 | 32.54 | +1.03 | 50.7 | 92 | -16 |

## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

Target location is OTTER TAIL ELMO 132N 37W S27 Lat: 46.22107 Lon: 95.33071
set location

Tretrieve only this station: 218579 WADENA 3S
years: $1992 \rightarrow 2002$
number of missing days allowed per month: 3
retrieve data from the following data sources:
$\sqrt{ } \sqrt{ }$ Precipitation from High Density Network (last update - December 2001)
$1 \checkmark$ Precipitation from National Weather Service (last update - October 2001)
$\sqrt{V}$ Temperature from National Weather Service (last update - October 2001)
$\sqrt{V}$ Snow from National Weather Service (last update - October 2001)


| Target | 132 R37 | S27 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| year m | cc tttN | rrw ss nnnn 00000000 | pre aaaaaa | Tmx | Tmn aa | sno | SnD dis |
| 1992 Jan | 77 131N | 35w 1 SWCD | . 40218579 | 24.4 | 5.4218579 | - 7.3 | 3.714 mi . |
| 1992 Feb | 77 131N | $35 W 1$ SWCD | 27218579 | 29.0 | 12.9218579 | - 5.9 | 4.214 mi |
| 1992 Mar | 77 131N | $35 W 1$ SWCD | 1.74218579 | -39.0 | 20.0218579 | - 1.7 | . 114 mi |
| 1992 Apr | 56132 N | 36 W 30 SWCD | 1.10218579 | 48.1 | 27.5218579 | - 3.0 | . 33 mi . |
| 1992 may | 56132 N | 36W 30 SWCD | 1.49218579 | 70.9 | 43.0218579 | 0 | 03 mi . |
| 1992 Jun | 56 132N | 36W 30 SWCD | 4.32218579 | 71.1 | 48.6218579 | 0 | 03 mi . |
| 1992 Jul | 56132 N | 36w 30 SWCD | 2.09218579 | 69.7 | 50.4218579 | 0 | 03 mi . |
| 1992 Aug | 56 132N | 36W 30 SWCD | 2.30218579 | 72 | 50.7218579 | 0 | 03 mi . |
| 1992 Sep | 56132 N | 36W 30 SWCD | 2.11218579 | 66.7 | 42.3218579 | 0 | 03 mi . |
| 1992 Oct | 56 131N | 38w 35 SWCD | 15218579 | 55.3 | 28.9218579 | - 4.5 | 28 mi . |
| 1992 Nov | 77 131N | 35 W 1 SWCD | 1.24218579 | 30.4 | 20.8218579 | -16.6 | 3.114 mi . |
| 1992 Dec | 77 131N | $35 W 1$ SWCD | 1.62218579 | 20.0 | 2.4218579 | 7.8 | 3.514 mi . |
| 1993 Jan | 77 132N | 35W 25 SWCD | 1.13218579 | 17.1 | -5.8 218579 | 19.1 | 14.014 mi . |
| 1993 Feb | 77 132N | 35W 25 SWCD | . 20218579 | 19.9 | -1.2 218579 | - 2.1 | 14.414 mi |
| 1993 Mar | 56 131N | 38W 35 SWCD | . 10218579 | 32.7 | 9.2218579 | - 8.8 | 9.18 mi . |
| 1993 Apr | 56 131N | 38w 35 SWCD | 1.11218579 | 51.2 | 28.4218579 | 1.0 | 08 mi . |
| 1993 may | 56132 N | 36W 30 SWCD | 6.73218579 | 63.6 | 41.9218579 | 0 | 03 mi. |
| 1993 Jun | 56132 N | 36w 30 SWCD | 5.26218579 | 67.8 | 50.7218579 | 0 | 03 mi . |
| 1993 Ju7 | 56132 N | 36w 30 SWCD | 5.22218579 | 72.6 | 56.4218579 | 0 | 03 mi . |
| 1993 Aug | 56 131N | 38W 35 SWCD | 6.26218579 | 75.1 | 54.7218579 | 0 | 08 mi . |
| 1993 Sep | 56132 N | 39w 13 SWCD | 1.30218579 | 60.6 | 40.1218579 | 0 | 09 mi . |
| 1993 Oct | 56132 N | 39W 13 SWCD | 1.50218579 | 53.1 | 29.1218579 | 0 | 09 mi : |
| 1993 Nov | 77 132N | $35 W 25$ SWCD | 1.57218579 | 30.5 | 12.8218579 | -25.5 | 3.714 mi . |
| 1993 Dec | 77 132N | $35 W 25$ SWCD | . 57218579 | 20.5 | 5.7218579 | 6.5 | 13.614 mi . |
| 1994 Jan | 77 132N | 35 W 25 SWCD | . 70218579 | 5.8 | -15.1 218579 | 14.7 | 21.414 mi. |
| 1994 Feb | 77 132N | $35 W 25$ SWCD | .46218579 | 14.5 | -8.6 218579 | 7.9 | 20.614 mi . |
| 1994 mar | 77 132N | 35W 25 SWCD | 1.03218579 | 35.6 | 18.9218579 | - 6.2 | 5.414 mi . |
| 1994 Apr | 56 132N | 39w 13 SWCD | 2.90218579 | 53.0 | 29.9218579 | . 8.0 | . 39 mi . |


| 1994 may | 56 132N | 36W 30 SWCD | 1.11218579 | 68.6 | 43.8 | 218579 | 0 | 3 mi . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1994 Jun | 56 131N | 38W 35 SWCD | 3.96218579 | 75.3 | 53.9 | 218579 | 0 | 08 mi . |
| 1994 Ju1 | 56 132N | 36W 30 SWCD | 3.71218579 | 75.4 | 56.2 | 218579 | 0 | 03 mi . |
| 1994 Aug | 56132 N | 36W 30 SWCD | 2.42218579 | 74.9 | 52.2 | 218579 | 0 | 03 mi . |
| 1994 Sep | 56132 N | 36W 30 SWCD | 1.72218579 | 70.4 | 47.1 | 218579 | 0 | 03 mi . |
| 1994 Oct | 56132 N | $36 W 30$ SWCD | 3.62218579 | 56.6 | 38.4 | 218579 | 0 | 03 mi . |
| 1994 Nov | 56 131N | 38W 35 SWCD | . 90218579 | 41.2 | 23.5 | 218579 | - 5.6 | 58 mi . |
| 1994 Dec | 77 132N | $35 W 25$ SWCD | 29218579 | 28.6 | 10.4 | 218579 | -5.0 | 1.014 mi . |
| 1995 Jan | 777132 N | 35W 25 SWCD | 82218579 | 17.6 | -. 3 | 218579 | - 7.5 | 3.714 mi . |
| 1995 Feb | 77 132N | 35W 25 SWCD | 39218579 | 21.0 | -3.1 | 218579 | . 7.8 | 7.414 mi |
| 1995 Mar | 77 132N | 35W 25 SWCD | 1.05218579 | 35.5 | 16.5 | 218579 | . 25.7 | 3.914 mi . |
| 1995 Apr | 21130 N | 37W 21 SWCD | 1.90218579 | 45.1 | 26.2 | 218579 | - 5.3 | . 311 mi . |
| 1995 May | 56132 N | 36W 30 SWCD | 3.02218579 | 63.7 | 41.0 | 218579 | 0 | 03 mi . |
| 1995 Jun | 56132 N | 36W 30 SWCD | 1.49218579 | 79.5 | 57.3 | 218579 | 0 | 03 mi . |
| 1995 Jul | 56132 N | 36 W 30 SWCD | 5.37218579 | 77.1 | 55.9 | 218579 | 0 | 03 mi . |
| 1995 Aug | 56132 N | 36 W 30 SWCD | 7.80218579 | 77.7 | 57.9 | 218579 | 0 | 03 mi . |
| 1995 Sep | 56132 N | 36W 30 SWCD | 1.90218579 | 67.0 | 43.3 | 218579 | 0 | 03 mi . |
| 1995 Oct | 56 132N | 36 W 30 SWCD | 4.76218579 | 50.9 | 34.0 | 218579 | - 6.3 | 13 mi . |
| 1995 Nov | 77 132N | $35 W 25$ SWCD | . 38218579 | 27.5 | 12.4 | 218579 | - 3.6 | 414 mi . |
| 1995 Dec | 77 132N | $35 W 25$ SWCD | . 54218579 | 19.6 | 2.6 | 218579 | -10.1 | 6.414 mi . |
| 1996 Jan | 77 132N | $35 W 25$ SWCD | . 56218579 | 9.8 | -14.2 | 218579 | 19.1 | 12.914 mi . |
| 1996 Feb | 77 132N | $35 W 25$ SWCD | . 62218579 | 19.6 | -2.0 | 218579 | - 10.2 | 16.314 mi . |
| 1996 Mar | 77 132N | 35W 25 SWCD | . 30218579 | 25.9 | 5.3 | 218579 | . 9.2 | 11.814 mi . |
| 1996 Apr | 21 130N | 37W 21 SWCD | . 51218579 | 45.1 | 24.9 | 218579 | . 7 | . 811 mi . |
| 1996 May | 56 132N | 36W 30 SWCD | 2.50218579 | 63.1 | 39.1 | 218579 | 0 | 03 mi . |
| 1996 Jun | 56 132N | 36W 30 SWCD | 1.87218579 | 74.9 | 53.6 | 218579 | 0 | 03 mi . |
| 1996 Jul | 56 132N | 36W 30 SWCD | 2.34218579 | 76.4 | 54.4 | 218579 | 0 | 03 mi . |
| 1996 Aug | 56 132N | 36W 30 SWCD | 2.09218579 | 78.8 | 54.4 | 218579 | 0 | 03 mi . |
| 1996 Sep | 56 132N | 36 W 30 SWCD | 4.35218579 | 66.7 | 45.9 | 218579 | 0 | 03 mi . |
| 1996 Oct | 56 132N | 36 W 30 SWCD | 4.91218579 | 55.2 | 33.0 | 218579 | 0 | 03 mi . |
| 1996 Nov | 77 132N | 35W 25 SWCD | 2.49218579 | 25.6 | 10.3 | 218579. | - 14.3 | 2.914 mi . |
| $\frac{1996 ~ D e c ~}{1997}$ | 77 132N | $35 W 25$ SWCD | . 74218579 | 13.9 ${ }^{\text {c }}$ | -. 4 | 218579 | - 10.7 | 11.414 mi . |
| 1997 Jan | 77 132N | 35W 25 SWCD | 1.25218579 | 11.5 | -9.5 | 218579 | - 36.0 | 33.214 mi . |
| 1997 Feb | 77 132N | 35W 25 SWCD | . 03218579 | 24.1 |  | 218579 | - 2.5 | 25.914 mi . |
| 1997 Mar | 77 132N | 35W 25 SWCD | .49218579 | 30.6 | 10.4 | 218579 | - 21.0 | 30.314 mi . |
| 1997 Apr | 77 132N | 35W 25 SWCD | . 47218579 | 48.8 | 25.3 | 218579 | 0 | 1.614 mi . |
| 1997 May | 56132 N | 36W 30 SWCD | 1.07218579 | 60.9 | 37.3 | 218579 | 0 | 03 mi . |
| 1997 Jun | $56132 N$ | 36W 30 SWCD | 2.75218579 | 78.0 | 54.8 | 218579 | 0 | 03 mi . |
| 1997 Jul | 56132 N | 36W 30 SWCD | 3.06218579 | 75.3 | 57.0 | 218579 | 0 | 03 mi . |
| 1997 Aug | 56 132N | 36W 30 SWCD | 2.99218579 | 73.5 | 53.0 | 218579 | 0 | 03 mi . |
| 1997 Sep | 56 132N | 36W 30 SWCD | 1.15218579 | 70.9 | 47.3 | 218579 | 0 | 03 mi . |
| 1997 Oct | 56 131N | 38W 35 SWCD | 2.36218579 | 56.3 | 34.2 | 218579 | 0 | 08 mi . |
| 1997 Nov | 77 132N | 35W 25 SWCD | . 71218579 | 30.6 | 15.9 | 218579 | -13.0 | 1.814 mi . |
| 1997 dec | 77132 N | 35 W 25 SWCD | . 22218579 | 29.5 | 17.0 | 218579 | - 3.3 | 1.714 mi . |
| 1998 Jan | 77 132N | 35W 25 SWCD | 54218579 | 18.6 | 2.5 | 218579 | - 9.4 | 7.714 mi . |
| 1998 Feb | 77 132N | 35W 25 SWCD | . 94218579 | 34.1 | 20.7 | 218579 | - 2.2 | 6.214 mi . |
| 1998 Mar | 77 132N | 35W 25 SWCD | 1.19218579 | 34.0 | 18.2 | 218579 | - 5.1 | 2.114 mi . |
| 1998 Apr | 56 131N | 38W 35 SWCD | 1.50218579 | 59.6 | 32.5 | 218579 | - 6.0 | .38 mi . |
| 1998 May | 56 131N | 38W 35 SWCD | 4.99218579 | 72.8 | 47.2 | 218579 | 0 | 08 mi . |
| 1998 Jun | 56 132N | 36W 30 SWCD | 6.90218579 | 68.6 | 52.0 | 218579 | 0 | 03 mi . |
| 1998 Jul | 56 132N | 36W 30 SWCD | 5.14218579 | 78.2 | 57.6 | 218579 | 0 | 03 mi . |
| 1998 Aug | 56132 N | 36W 30 SWCD | . 72218579 | 79.7 | 56.0 | 218579 | 0 | 03 mi . |
| 1998 Sep | 56132 N | 36W 30 SWCD | . 70218579 | 75.4 | 48.4 | 218579 | 0 | 03 mi . |
| 1998 Oct | 56 131N | 38W 35 SWCD | 7.59218579 | 56.6 | 37.9 | 218579 | 0 | 08 mi . |
| 1998 Nov | 56 131N | 38W 35 SWCD | . 80218579 | 37.8 | 24.1 | 218579 | -10.7 | 2.58 mi . |
| 1998 Dec | 77 132N | 35W 25 SWCD | 22218579 | 28.8 | 10.0 | 218579 | - 3.0 | .714 mi . |
| 1999 Jan | 77 132N | 35W 25 SWCD | . 89218579 | 14.0 | -2.7 | 218579. | - 21.5 | 8.114 mi . |
| 1999 Feb | 77 132N | 35W 25 SWCD | . 11218579 | 30.1 | 9.0 | 218579 | - 2.7 | 4.314 mi . |
| 1999 Mar | 77 132N | 35W 25 SWCD | . 85218579 | 38.1 | 19.3 | 218579 | -8.4 | 1.314 mi . |
| 1999 Apr | 56132 N | 36W 30 SWCD | 2.05218579 | 54.6 | 33.5 | 218579 | - 4.0 | . 13 mi . |
| 1999 may | 56 132N | 36W 30 SWCD | 6.36218579 | 67.4 | 44.9 | 218579 | 0 | 03 mi . |
| 1999 Jun | 56132 N | 36W 30 SWCD | 5.67218579 | 73.2 | 54.1 | 218579 | 0 | 03 mi . |
| 1999 Ju7 | 56132 N | 36W 30 SWCD | 5.61218579 | 80.6 | 60.4 | 218579 | 0 | 03 mi . |
| 1999 Aug | 56132 N | 36W 30 SWCD | 5.56218579 | 75.6 | 55.5 | 218579 | 0 | 03 mi . |
| 1999 Sep | 56132 N | 36W 30 SWCD | 2.64218579 | 65.3 | 45.4 | 218579 | 0 | 03 mi . |
| 1999 Oct | 56132 N | 36W 30 SWCD | . 36218579 | 54.4 | 30.9 | 218579 | 0 | 03 mi . |
| 1999 Nov | 56 131N | 38W 35 SWCD | 0218579 | 48.7 | 25.0 | 218579 | 0 | 08 mi : |
| 1999 Dec | 77 132N | $35 W 25$ SWCD | -38 218579 | 30.6 | 10.7 | 218579 | 5.5 | .714 mi . |
| 2000 Jan | 77 132N | $35 W 25$ SWCD | .31218579 | 19.2 | -. 8 | 218579 . | 10.8 | 4.114 mi . |
| 2000 Feb | 77 132N | 35W 25 SWCD | 1.16218579 | 29.6 | 10.0 | 218579 | - 13.7 | 5.314 mi . |
| 2000 Mar | 77 132N | 35W 25 SWCD | 1.25218579 | 45.6 | 24.4 | 218579 | - 8.0 | . 514 mi . |
| 2000 Apr | 56132 N | 36W 30 SWCD | 1.54218579 | 53.1 | 29.5 | 218579 | - 9.0 | . 33 mi . |
| 2000 may | 56132 N | 36W 30 SWCD | 2.73218579 | 67.2 | 45.4 | 218579 |  | 03 mi . |
| 2000 Jun | 56132 N | 36W 30 SWCD | 4.80218579 | 70.3 | 50.2 | 218579 | 0 | 03 mi . |


| 2000 Ju7 | 56133 N 39 w 36 | SWCD |  | 3.82 | 218579 | 77.8 | 58.1 | 218579 | 0 |  | 011 | 1 mi. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2000 Aug | 56133 N 39W 36 | SWCD |  | 1.05 | 218579 | -79.2 | 55.6 | 218579 | 0 |  | 011 | 1 mi . |
| 2000 Sep | 56 133N 39w 36 | SWCD |  | 2.18 | 218579 | 68.2 | 42.5 | 218579 | 0 |  | 011 | 1 mi . |
| 2000 Oct | 56 132N 36W 30 | SWCD |  | 1.55 | 218579 | 58.8 | 35.7 | 218579 | 0 |  | 03 | mi. |
| 2000 Nov | 77 132N 35W 25 | SWCD |  | 3.17 | 218579 | 35.7 | 22.8 | 218579 | -10.1 |  | . 71 | 4 mi. |
| 2000 Dec | 77132 N 35 W 25 | SWCD |  | . 36 | 218579 | 12.0 | -5.8 | 218579 | . 11.3 |  | . 31 | 4 mi. |
| 2001 Jan | 77 132N 35W 25 | SWCD |  | . 58 | 218579 | 25.7 | 7.5 | 218579 | - 10.7 |  | . 61 | 4 mi . |
| 2001 Feb | 77 132N 35W 25 | SWCD |  | 1.04 | 218579 | 15.3 | -6.8 | 218579 | - 24.3 | 17. | . 31 | 4 mi . |
| 2001 Mar | 77 132N 35W 25 | SWCD |  | . 26 | 218579 | 32.9 | 10.7 | 218579 | +3.3 |  | . 71 | 4 mi. |
| 2001 Apr | 56132 N 36 W 30 | SWCD |  | 4.76 | 218579 | 51.5 | 33.8 | 218579 | . 1.0 |  | . 13 | mi. |
| 2001 may | 56132 N 36 W 30 | SWCD |  | 3.00 | 218579 | 68.3 | 45.9 | 218579 | 0 |  | 03 | mi . |
| 2001 Jun | 56 131N 38W 35 | SWCD |  | 8.50 | 218579 | 74.8 | 56.2 | 218579 | 0 |  | 08 | mi. |
| 2001 Ju7 | 56132 N 36 W 30 | SWCD |  | 4.08 | 218579 | 80.3 | 59.4 | 218579 | 0 |  | 03 | mi . |
| 2001 Aug | 56 131N 38W 35 | SWCD |  | 1.37 | 218579 | 81.4 | 56.5 | 218579 | 0 |  | 08 | mi. |
| 2001 sep | 56132 N 36 W 30 | SWCD |  | 2.80 | 218579 | 66.5 | 46.5 | 218579 | 0 |  | 03 | mi . |
| 2001 Oct | 56 131N 38w 35 | SWCD |  | 1.67 | 218579 | 54.5 | 33.4 | 218579 | . 5 |  | 08 | mi |
| 2001 Nov | 77 132N 35W 25 | SWCD |  | 1.44 | 218579 | 50.6 | 31.4 | 218579 | -12.3 |  | . 01 | 4 mi. |
| 2001 Dec | 77132 N 35 W 25 | SWCD |  | . 32 | 218579 | 29.7 | 15.9 | 218579 | - 2.8 |  | . 71 | 4 mi. |
| 2002 Jan | 77 132N 35W 25 | SWCD |  | . 08 | 210112 | m | m | m |  | 14 m | mi. |  |
| 2002 Feb |  |  | 218579 | .35 | 210112 | m | m | m | m | 15 m | mi. |  |
| 2002 Mar |  |  | 218005 |  | 210112 | m | m | m | m | 27 m | mi. |  |
| 2002 Apr |  | m | m | m | m | m 999 | 9 mi . |  |  |  |  |  |
| 2002 May |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Jun |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Ju1 |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Aug |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Sep |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Oct |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Nov |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |
| 2002 Dec |  | m | m | m | m | m 999 | mi. |  |  |  |  |  |

Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as ' - '. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)

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## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

Target location is STEARNS MELROSE (south) 126N 33W S5
Lat: 45.75031 Lon: 94.86681
set location
$\Gamma$ retrieve only this station: 217530 SAUK CENTER
years: 1992 to 2002 I
number of missing days allowed per month: 3
retrieve data from the following data sources:
$\sqrt{V}$ Precipitation from High Density Network (last update - December 2001)
$\sqrt{V}$ Precipitation from National Weather Service (last update - October 2001)
$\sqrt{V}$ Temperature from National Weather Service (last update - October 2001)
1 V Snow from National Weather Service (last update - October 2001)
get monthly
get daily

Target: T126 R33 S5
year m cc tttN rrw ss nnnn oooooooo
1992 Jan

| aaaaaa | Tmx | Tmn a a | sno | Snd di |
| :---: | :---: | :---: | :---: | :---: |
| 59215325 | 28.7 | 7.6215325 | 7.2 | 6.85 |
| 18215325 | 33.4 | 16.9215325 | 2.3 | 5.05 |
| 1.57215325 | 43.2 | 21.7215325 | 7.0 | 45 |
| 2.97215325 | 53.0 | 30.6215325 | 5.0 | 04 |
| 2.28215325 | 76.3 | 45.7215325 | 0 | 04 |
| 6.23215325 | 78.1 | 51.9215325 | 0 | 04 |
| 3.05215325 | 76.4 | 52.0215325 | 0 | 04 |
| 2.42215325 | 76.8 | 51.7215325 | 0 | 04 |
| . 91215325 | 71.8 | 45.3215325 | 0 | 0 |
| . 79215325 | 58.7 | 32.2215325 | 4.0 | 0 |
| . 48215325 | 33.3 | 23.4215325 | 10.5 | 3.9 |
| 94215325 | 27.3 | 9.9215325 | 11.1 | 4.2 |
| 92215325 | 24.3 | 2.9215325 | 14.2 | 14.6 |
| 22215325 | 26.6 | 6.2215325 | 4.3 | 13.3 |
| 39215325 | 41.2 | 18.7215325 | 4.5 | 12.85 |
| 25215325 | 56.4 | 31.7215325 | 2.0 | 04 |
| 42215325 | 69.5 | 45.6215325 | 0 | 04 |
| 36215325 | 74.9 | 53.1215325 | 0 | 0 |
| 34215325 | 79.5 | 59.8215325 | 0 | 0 |
| 80215325 | 80.2 | 59.0215325 | 0 | 0 |
| 2.23215325 | 66.6 | 42.7215325 | 0 | 0 |
| 86215325 | 58.3 | 33.2215325 | 0 | - 04 |
| 25215325 | 36.2 | 19.5215325 | 16.5 | 5.45 |
| 55215325 | 26.9 | 9.4215325 | 6.0 | 10.8 |
| 15215325 | 9.3 | -10.5 215325 | 22.6 | 15.8 |
| 56215325 | 19.4 | -1.4 215325 | 8.1 | 16.85 |
| 1.08215325 | 41.1 | 22.3214861 | 6.2 | 5.45 |
| 3.24215325 | 58.3 | 32.1215325 | 0 | . 34 |




Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as '-'. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)
return to retrieval selection

State Climatology Office - MnDNR - Waters, 1996-2001 You can send e-mail to the State Climatology Office.

## 'Closest Station' Climate Data Retrieval

The data matching your request is at the bottom of this page or should appear there within one minute.

Target location is STEARNS MELROSE (south) 126 N 33 W S5 Lat: 45.75031 Lon: 94.86681
set location

Tretrieve only this station: 217530 SAUK CENTER
years: 1992 to 2002
number of missing days allowed per month: 3
retrieve data from the following data sources:
$\sqrt{V}$ Precipitation from High Density Network (last update - December 2001)
$\sqrt{5}$ Precipitation from National Weather Service (last update - October 2001)
IV Temperature from National Weather Service (last update - October 2001)
$\sqrt{7}$ Snow from National Weather Service (last update - October 2001)



| pre aaaaa | Tmx | Tmn a | sno | Snd |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 59215325 | 28.7 | 7.6215325 | 7.2 | 6.8 | 5 mi . |
| 18215325 | 33.4 | 16.9215325 | 2.3 | 5.0 | 5 mi |
| 1.57215325 | 43.2 | 21.7215325 | 7.0 | 4 | 5 m |
| 2.97215325 | 53.0 | 30.6215325 | 5.0 | 0 | 4 mi |
| 2.28215325 | 76.3 | 45.7215325 | 0 | 0 | mi |
| 6.23215325 | 78.1 | 51.9215325 | 0 | 0 | mi |
| 3.05215325 | 76.4 | 52.0215325 | 0 | 0 | mi |
| 2.42215325 | 76.8 | 51.7215325 | 0 | 0 | mi |
| . 91215325 | 71.8 | 45.3215325 | 0 | 0 | mi |
| . 79215325 | 58.7 | 32.2215325 | 4.0 | 0 | 4 mi |
| . 48215325 | 33.3 | 23.4215325 | 10.5 | 3.9 | mi |
| . 94215325 | 27.3 | 9.9215325 | 11.1 | 4.2 | mi |
| . 92215325 | 24.3 | 2.9215325 | 14.2 | 14.6 | mi |
| . 22215325 | 26.6 | 6.2215325 | 4.3 | 13.3 | 5 mi |
| 1.39215325 | 41.2 | 18.7215325 | 4.5 | 12.8 | 5 mi . |
| 1.25215325 | 56.4 | 31.7215325 | 2.0 | 0 | 4 m |
| 5.42215325 | 69.5 | 45.6215325 | 0 | 0 | 4 m |
| 4.36215325 | 74.9 | 53.1215325 | 0 | 0 | 4 mi . |
| 4.34215325 | 79.5 | 59.8215325 | 0 | 0 | 4 mj |
| 4.80215325 | 80.2 | 59.0215325 | 0 | 0 | 4 mi |
| 2.23215325 | 66.6 | 42.7215325 | 0 | 0 | 4 m |
| . 86215325 | 58.3 | 33.2215325 | 0 |  | 4 m |
| 2.25215325 | 36.2 | 19.5215325 | 16.5 | 5.4 | 5 |
| 55215325 | 26.9 | 9.4215325 | 6.0 | 10.8 |  |
| 1.15215325 | 9.3 | -10.5 215325 | 22.6 | 15.8 | 5 |
| 56215325 | 19.4 | -1.4 215325 | 8.1 | 16.8 | 5 m . |
| 1.08215325 | 41.1 | 22.3214861 | 6.2 | 5.4 | 5 mi. |
| 3.24215325 | 58.3 | 32.1215325 | 0 | . 3 | 4 mi |


|  <br>  |
| :---: |
|  |  |
|  |  |


| 73 | $126 N$ | $34 W$ | 9 | WSD |
| :--- | :--- | :--- | :--- | :--- |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |


| 73 | $126 N$ | $34 W$ | 9 | WSD |
| :--- | :--- | :--- | :--- | :--- |
| 73 | $126 N$ | $34 W$ | 9 | $W S D$ |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |


| 73 | $126 N$ | $34 W$ | 9 | WSD |
| :--- | :--- | :--- | :--- | :--- |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | 126 N | $34 W$ | 9 | WSD |

73 126N 33W 34 DNR

| 73 | $126 N$ | $34 W$ | 9 | WSD |
| :--- | :--- | :--- | :--- | :--- |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |
| 73 | $126 N$ | $34 W$ | 9 | WSD |

73 126N 34W 34 WSD 73126 N 34 W 34 WSD

## 73 126N 33W 34 DNR

73126 N 33 W 34 DNR 73126 N 33 W 34 DNR 73 126N $33 W 34$ DNR

215325

|  | 2.67215325 | 73.5 | 47.5215325 | 0 | 04 m |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2.86215325 | 80.3 | 56.7215325 | 0 | 04 mi . |
|  | 3.83215325 | 80.5 | 58.8215325 | 0 | 04 mi . |
|  | 3.46215325 | 78.2 | 56.8215325 | 0 | 04 mi . |
|  | 3.17215325 | 73.1 | 52.2215325 | 0 | 04 mi . |
|  | 4.18215325 | 59.4 | 40.8215325 | 0 | 04 mi . |
|  | . 54215325 | 44.2 | 26.6215325 | 8.5 | 04 mi |
| 215325 | . 23215325 | 30.6 | 12.6215325 | 3.2 | 5.75 mi . |
| 215325 | . 67215325 | 23.4 | 5.1215325 | m | 8.65 mi . |
| 215325 | . 43215325 | 26.7 | 4.8214861 | 8.8 | 10.75 mi . |
| 215325 | 2.20215325 | 41.7 | 22.0215325 | 14.0 | 8.05 mi . |
|  | 2.11215325 | 50.9 | 29.6215325 | 3.0 | 04 mi . |
|  | 2.96215325 | 67.6 | 43.5215325 | 0 | 04 mi . |
|  | 3.86215325 | 82.8 | 59.4215325 | 0 | 04 mi . |
|  | 5.53215325 | 83.4 | 60.3215325 | 0 | 04 mi . |
|  | 5.37215325 | 82.6 | 62.8215325 | 0 | 04 mi . |
|  | 5.42215325 | 70.8 | 47.7215325 | 0 | 04 mi . |
| 215325 | 6.17215325 | 55.1 | 37.8215325 | m | 15 mi . |
| 215325 | . 47215325 | 33.3 | 16.8214861 | 6.2 | 95 mi . |
| 215325 | 1.36215325 | 24.5 | 7.6215325 | 14.0 | 6.95 mi . |
| 215325 | 2.35215325 | 14.9 | -6.6 215325 | 24.0 | 12.75 mi . |
| 215325 | . 50215325 | 24.1 | 4.6215325 | 4.5 | 18.15 mi . |
| 215325 | . 85215325 | 31.8 | 11.9215325 | 11.0 | 12.25 mi . |
| 215325 | . 69215325 | 51.5 | 27.8215325 | 7.0 | 1.85 mi . |
|  | 3.56215325 | 66.6 | 43.5215325 | 0 | 04 mi . |
|  | 2.73215325 | 80.1 | 57.0215325 | 0 | 04 mi . |
|  | 4.57215325 | 80.8 | 57.2215325 | 0 | 04 mi . |
|  | . 71215325 | 82.4 | 58.5215325 | 0 | 04 mi . |
|  | 3.25215325 | 71.7 | 50.3215325 | 0 | 04 mi . |
|  | 5.62215325 | 60.6 | 37.0215325 | 0 | 04 mi . |
| 215325 | 3.20215325 | 30.0 | 15.6215325 | 9.0 | 3.95 mi . |
| 215325 | 1.45215325 | 17.9 | 3.7215325 | 13.3 | 14.65 mi. |
| 215325 | 2.65215325 | 15.1 | -3.5 215325 | 24.0 | 30.15 mi . |
| 215325 | . 10215325 | 27.6 | 7.6214861 | 1.0 | 28.95 mi . |
| 215325 | 1.65215325 | 35.2 | 16.7215325 | 15.5 | 23.75 mi . |
| 215325 | . 72215325 | 54.5 | 29.9215325 | 0 | .95 mi. |
|  | 2.29215325 | 66.2 | 40.3215325 | 0 | 04 mi . |
|  | 1.87215325 | 83.2 | 58.3215325 | 0 | 04 mi . |
|  | 5.20215325 | 80.3 | 61.1215325 | 0 | 04 mi . |
|  | 4.64215325 | 78.7 | 57.9215325 | 0 | 04 mi . |
|  | 1.82215325 | 74.5 | 52.1215325 | 0 | 04 mi . |
|  | 1.99215325 | 61.1 | 38.7215325 | 0 | 04 mi . |
| 215325 | . 73215325 | 33.0 | 19.9214861 | 12.0 | 3.85 mi . |
|  | . 23215325 | 32.6 | 19.0215325 | 2.5 | .56 mi . |
|  | . 96215325 | 23.1 | 7.7214861 | 14.7 | 6.56 mi . |
| 215325 | m 215325 | 36.9 | 24.0214861 | 1.5 | 6.15 mi . |
| 215325 | . 68215325 | 38.7 | 22.3214861 | 4.1 | .25 mi . |
| 215325 | 1.70215325 | 63.9 | 35.4215325 | 7.0 | .35 mig . |
| 215325 | 3.96215325 | 77.6 | 49.9215325 | 0 | 05 mi . |
|  | 7.52215325 | 76.9 | 54.9215325 | 0 | 04 mi . |
|  | 4.59215325 | 84.5 | 61.1215325 | 0 | 04 mi . |
|  | 1.94215325 | 83.8 | 60.3215325 | 0 | 04 mi . |
|  | 2.41215325 | 78.8 | 51.9215325 | 0 | 04 mi . |
|  | 3.07215325 | 61.2 | 39.7215325 | 0 | 04 mi . |
| 215325 | 1.65215325 | 41.7 | 26.4215325 | 3.0 | 1.25 mi . |
| 215325 | . 65215325 | 32.9 | 12.2215325 | m | 1.15 mi . |
| 215325 | 1.33215325 | 18.9 | 1.0215325 | 20.5 | 11.55 mi . |
| 215325 | 1. 215325 | 35.0 | 15.8214861 | 1.3 | 8.25 mi . |
| 215325 | 1.30215325 | 43.0 | 22.0215325 | 10.5 | 3.25 mi . |
|  | 2.32215325 | 57.4 | 34.9215325 | 3.0 | . 25 mi . |
| 215325 | 5.26215325 | 70.8 | 46.6215325 | 0 | 05 mi . |
| 215325 | 4.23215325 | 78.6 | 55.8215325 | 0 | 05 mi . |
| 215325 | 5.05215325 | 87.4 | 62.0215325 | 0 | 05 mi . |
| 215325 | 2.89215325 | 80.7 | 58.0215325 | 0 | 05 mi . |
| 215325 | 2.20215325 | 71.2 | 48.1215325 | 0 | 05 mi . |
| 215325 | 1.05215325 | 61.2 | 34.0215325 | 0 | 05 mi . |
| 215325 | . 15215325 | 51.4 | 26.4215325 | 0 | 05 mi . |
| 215325 | . 09215325 | 34.4 | 12.1215325 | 1.8 | 1.25 mi . |
| 215325 | 59215325 | 24.7 | 1.6215325 | 13.0 | 4.45 mi . |
|  | 1.51215325 | 34.4 | 13.9215325 | 9.0 | 5.65 mi . |
| 215325 | 1.27215325 | 50.9 | 27.2215325 | 0 | 05 mi . |
|  | . 92215325 | 57.7 | 31.2215325 | 4.0 | 25 mi. |
|  | 2.94215325 | 72.4 | 46.5215325 |  | 05 mi . |
|  | 3.66215325 | 76.0 | 51.5215325 | 0 | 05 mi . |



Where indicated: Missing values are shown as ' $m$ '. Days on which precip accumulated in the gage are shown as ' - '. 'TTTT RR SS' is the 'public land survey(PLS)' or 'legal' location of the observed data. Section values greater 36 are SECTIC 'TIC' locations plus 100. 'NWS ID' the National Weather Service Cooperative station number. Note that the 'PLS' will always be correct for precipitation data while the 'NWS ID' will always be correct for the temperature data. If no PLS info is supplied the the 'NWS ID' number applies to all shown data. (Please see the 'online index'.)
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