

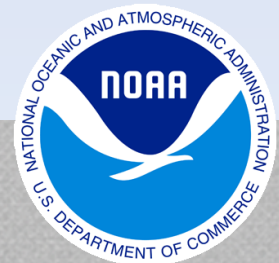
# Frost and Freeze Data and Impacts to the Agriculture, Construction and Transportation Industry



Stuart Hinson

## Using the Climate Data Online System

Friday, March 22, 13



# Users Guide

- **How to use the Climate Data Online (CDO) System**
- **Versatile self-service web application**
  - **Drill down to find your exact product**
    - **Product Selector (by Theme, Temporal Resolution, Program)**
    - **Location Service (by State, County, City, or Zip Code)**
    - **Date Range**
- **Output in PDF Forms or csv files**
- **Send link to e-mail address once the data becomes available**

**NOAA NATIONAL CLIMATIC DATA CENTER**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Home About NCDC Contact Help [New to Climate Information?](#)  [SEARCH](#)

**Data Access**

- Most Popular Data
- Land-Based Station Data**
- Satellite Data
- Radar Data
- Model Data
- Weather Balloon Data
- Marine / Ocean Data
- Paleoclimate Data
- Severe Weather
- Other Data Access

**Climate Information**

- Climate of the U.S.
- Analyses
- Extreme Events
- Statistical Weather and Climate Information
- Sectoral & Regional
- International
- Science Papers and Publications

**Support**

- Tools
- Partnerships
- World Data Centers
- Customer Support
- Archiving your Data at NCDC
- Education Resources

**U.S. Drought Monitor Update for March 5, 2013**  
According to the March 5 U.S. Drought Monitor, moderate to exceptional drought covers 53.3% of the contiguous U.S.

**Climate Perspectives**

**2012 Warmest Year on Record for U.S.**  
The 2012 annual temperature was 3.2°F above the 20th century average, making it the warmest year on record for the contiguous United States. Read more in the full report.

Links: [2012 by the Numbers](#) | [2012 All-Time Temperature Records](#) | [Top Ten 2012 U.S. Events](#)

**Latest News**

- NCDC Insider: Meet CICS-NC Mathematician, Jessica Matthews
- U.S. Climate Reference Network Reveals Emerging Capabilities

**Climate.gov**  
science and services for society

- Land-Based Station Data
- Climate Data Online

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**Data Access**

- Most Popular Data
- Land-Based Station Data**
  - Datasets
  - Find a Station
  - Station Metadata
  - Climate Data Online
  - Data Publications
- Satellite Data
- Radar Data
- Model Data
- Weather Balloon Data
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## Land-Based Station Data

Land-based (*in situ*) observations are collected from instruments sited at locations on every continent. They include temperature, dew point, relative humidity, precipitation, wind speed and direction, visibility, atmospheric pressure, and types of weather occurrences such as hail, fog, and thunder. NOAA's National Climatic Data Center (NCDC) provides a broad level of service associated with *in situ* observations. These include data collection, quality control, archive, and removal of biases associated with factors such as urbanization and changes in instrumentation through time. Data on sub-hourly, hourly, daily, monthly, annual, and multi-year timescales are available.

- [Datasets](#)  
Access NCDC's land-based datasets directly.
- [Find a Station](#)  
Locate a station either by a map tool or location and data search tool.
- [Station Metadata](#)  
Find details such as begin/end date for a station and when there was a change in equipment or siting.
- [Climate Data Online \(CDO\)](#)  
The web access application for NCDC's archive of weather and climate data.
- [Data Publications](#)  
Monthly publications for a variety of datasets along with serial publications and other documents.

Measuring instruments used for current observations and data reporting



## Climate Data Online: Text & Map Search

Search by station name  
or locate on a map

Use the tabs below to select a search method for available climate data. Use the Map Search tab to search via a map based interface, use the Data Search tab to search via a text based interface, or use the FTP & Legacy Access tab to use the older search based access tools.

Map Search

Data Search

FTP & Legacy Access

Metadata Search

### Interactive Map Application

Allows Data Access using a map to search by countries, states, cities, ZIP code, climate divisions and hydrologic units. Many other geographic tools and secondary functions available.

[Go to map application](#)



### Help

Have questions about the data? Need some assistance? Use the links below to quickly find the answers you need.

[Climate Data Online help](#)

[Check order status](#)

[Request assistance](#)

Need technical documentation or assistance with systems access?

[View data samples & documentation](#)

[NCDC Web Services](#)

[CDO Web Services Documentation](#)



# CDO Data Search

**NOAA NATIONAL CLIMATIC DATA CENTER**  
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Home About NCDC Contact Help [New to Climate Information?](#)  **SEARCH**

Home > Climate Data Online

### Climate Data Online: Text & Map Search

Use the tabs below to select a search method for available climate data. Use the Map Search tab to search via a map based interface, use the Data Search tab to search via a text based interface, or use the FTP & Legacy Access tab to use the older search based access tools.

**Map Search** | **Data Search** | FTP & Legacy Access | Metadata Search

#### Free Data Search & Ordering

- Enter search term(s) for station name, location name, ZIP code, etc.
- Select a data set or product to search  
Select One  
Annual Summary  
Daily GHCND  
Monthly Summaries GHCND  
Normals Annual/Seasonal  
Normals Daily  
Normals Hourly  
Normals Monthly  
Precipitation 15 Minute  
Precipitation Hourly
- Click the SEARCH button

#### Data Set Documentation and Samples

<b>Annual Summary</b>	<b>Annual Summary Documentation</b>
Daily GHCND	Full documentation of Annual Summary data, including record layout, full data type list and definitions, observations, and attributes.
Monthly Summaries GHCND	<b>Download documentation</b>
Normals Annual/Seasonal	PDF Format MS Word Format
Normals Daily	<b>Samples</b>
Normals Hourly	The following samples are intended to show how data is formatted within a specific data set's product. The data contain therein is for sample purposes only.
Normals Monthly	
Precipitation 15 Minute	
Precipitation Hourly	Adobe PDF output is formatted into an easy-to-read table which includes a predefined subset of data types and parameters.

Box 1 – Search term  
Box 2 – Product Selector  
Box 3 – Search

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[Request assistance](#)

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[View data samples & documentation](#)  
[NCDC Web Services](#)  
[CDO Web Services Documentation](#)

**NOAA NATIONAL CLIMATIC DATA CENTER**  
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Home About NCDC Contact Help [New to Climate Information?](#)  **SEARCH** [Cart \(Free Data\)](#) [0 items](#)

Home > Climate Data Online > Search Results: Normals Annual/Seasonal

Results 1-4 of 4  **SEARCH**

Sort:  Show:  All  Stations  Locations

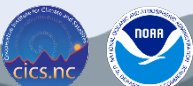
- ASHEVILLE, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:USW00013872  
Location: North Carolina, United States  
Period of Record: 2010-01-01 : 2010-01-01 [Add to cart](#)
- ASHEVILLE 13 S, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:USW00053878  
Location: North Carolina, United States  
Period of Record: 2010-01-01 : 2010-01-01 [Add to cart](#)
- ASHEVILLE 8 SSW, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:USW00053877  
Location: North Carolina, United States  
Period of Record: 2010-01-01 : 2010-01-01 [Add to cart](#)
- ASHEVILLE REGIONAL AIRPORT, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:USW00003812  
Location: North Carolina, United States  
Period of Record: 2010-01-01 : 2010-01-01 [Add to cart](#)

#### Help

Have questions about the data? Need some assistance? The links below should help you quickly find the answers you need.

[Online help](#)  
[Check request status](#)  
[Request assistance](#)  
[Contact Us](#)

Need technical documentation or help with access to NCDC's systems?  
[View data samples & documentation](#)  
[NCDC Web Services](#)  
[CDO Web Services Documentation](#)



# Asheville, NC

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Home About NCDC Contact Help [New to Climate Information?](#)  [» SEARCH](#)

Home > Climate Data Online > Search Results: Daily GHCND Cart (Free Data) 0 items

Asheville [SEARCH](#)

Results 1-10 of 25 Sort: Best Match Show:  All  Stations  Locations

**ASHEVILLE, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:USW00013872  
Location: North Carolina, United States  
Period of Record: 1876-08-01 : 2013-02-13

**ASHEVILLE 13 S, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:USW00053878  
Location: North Carolina, United States  
Period of Record: 2001-06-20 : 2013-03-09

**ASHEVILLE 2.0 N, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:US1NCBC0033  
Location: North Carolina, United States  
Period of Record: 2010-07-10 : 2011-01-20

**ASHEVILLE 2.9 N, NC US**  
View Full Details | Quick Details  
Station ID: GHCND:US1NCBC0045  
Location: North Carolina, United States  
Period of Record: 2011-04-28 : 2013-03-07

[Add to cart](#)  
[Add to cart](#)  
[Add to cart](#)  
[Add to cart](#)

**Help**  
Have questions about the data? Need some assistance? The links below should help you quickly find the answers you need.  
[Online help](#)  
[Check request status](#)  
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[Contact Us](#)  
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[View data samples & documentation](#)  
[NCDC Web Services](#)  
[CDO Web Services Documentation](#)

**1. Select "Stations"**

**2. Click "Add to Cart"**



# Select Date Range and Output Format

**NOAA** NATIONAL CLIMATIC DATA CENTER  
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Home About NCDC Contact Help **New to Climate Information?**  **SEARCH**

Home > Climate Data Online > Cart: Daily GHCND

## View/Edit Your Cart

Below is a list of stations/locations that have been selected and are currently in the queue for checkout. When you are ready to submit your order, select the format in which you would like to have the data delivered, select the date/time range, then click the "CONTINUE" button to the right.

There is no fee for requesting or accessing data via Climate Data Online. The only service that requires payment is certification. [Learn more about certification.](#)

Sort: As Added to Cart

**ASHEVILLE, NC US** [View Full Details](#) | [Quick Details](#) [Remove](#)

**Station ID:** GHCND:USW00013872  
**Location:** United States, North Carolina  
**Period of Record:** 1876-08-01 : 2013-02-13

### Additional options

#### Output date range

2013-01-01 2013-01-31

\*Note: Changing these dates will affect the data that is available in requested inventory. If no data is available for a specific location or station the items will be highlighted in red within the request list and data will not be delivered for those stations/locations.

#### Select the output format

**GHCN-Daily PDF**  
[DCC Certification Option](#)

Custom GHCN-Daily CSV  
(Click Continue to select data types.)

Custom GHCN-Daily Text  
(Click Continue to select data types.)

(Note: If one of the custom text output is selected, another page will be presented with additional options)

**BACK TO SEARCH** **CONTINUE**

1. Click on the "calendar" icons
2. Select output format

# Select Output Review and Submit Order

**NOAA** NATIONAL CLIMATIC DATA CENTER  
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Home About NCDC Contact Help [New to Climate Information?](#)  [» SEARCH](#)

Home > Climate Data Online > Review Order Cart (Free Data) 1 item

## Review Order

**Requested Data Review**

**Data Set:** Daily GHCND  
**Order Start Date:** 2013-01-01  
**Order End Date:** 2013-01-31  
**Output Format:** GHCN-Daily PDF  
**Stations/Locations:** ASHEVILLE, NC US (Station ID: GHCND:USW00013872)

### Review and Submit Order

#### Review Order

Please review these selected items from your CDO request: data set, output type, output date ranges, data types (if applicable), and stations and locations.

If all looks good, enter a valid email address that CDO will use to send tracking and data download instructions for this order.

Then, click the "SUBMIT ORDER" button to finalize the order. By submitting this request, you agree with *both* the disclaimer and the privacy policy.

**Enter email address**

**Email Address**

**Verify Email Address**

**Remember my email address**  
NOAA will not share your email address with anyone. The email address will not be used for any other purpose other than allowing this field to be prepopulated. The data is stored in the form of a browser cookie for seven (7) days and can be removed anytime.

[BACK TO SEARCH](#) [SUBMIT ORDER](#)

1. Review the data request
2. Enter your e-mail address
3. Submit your Order




# Order Confirmation and E-mail

The web page and system-generated e-mail look very similar in appearance and function

Track Order Status

You are receiving this email because a request was made using this email address at the NCDC Climate Data Portal website. This email is automatically created and distributed, so please do not reply to this email. To ensure you receive emails from NCDC, please add [noreply@noaa.gov](mailto:noreply@noaa.gov) to your address book.

Having issues reading this email?  
[Click here to view in your browser.](#)

**NOAA** NATIONAL CLIMATIC DATA CENTER  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Your data request has been successfully submitted!

[Click here to track your request](#)

#### Order Summary

Order Number: 137923  
Order Status: Submitted  
Requested Format: GHCN Daily PDF  
Email Address: Stuart.Hinson@noaa.gov  
Date Submitted: 2013-3-12 13:20 EST

#### Period of Request

Start Date: 1/1/2013  
End Date: 1/31/2013

#### Requested Data

Stations: GHCND:USW00013872 - ASHEVILLE, NC US

**CERTIFICATION**  
Certain data sets can be certified for court cases or insurance claims. Certification fees vary based on the amount of data requested. [Learn more about certification.](#)


**HELPFUL LINKS**  
[Track your request online](#)

[View Documentation for data](#)

[Climate Data Online website](#)

[Report a problem](#)

**DID YOU KNOW?**  
Data downloads are offered in multiple formats including Adobe PDF, fixed-width ASCII Text (.dat), and comma-separated value (.csv) files.

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[Home](#) [About NCDC](#) [Contact](#) [Help](#) [New to Climate Information?](#)

[Home](#) > [Climate Data Online](#) > Order Complete

## Request Submitted



Your request was successfully submitted.  
The requested data should be ready shortly.

[Print Receipt](#)

Order Number: 137923

Requested Format: GHCN-Daily PDF

Order Status: [Check the status of order](#)

Email Address: Stuart.Hinson@noaa.gov

Date Submitted: 2013-3-12 13:20:24 EST

#### Period of Request

Start Date: 1/1/2013

End Date: 1/31/2013

#### Requested Data

Stations: GHCND:USW00013872 - ASHEVILLE, NC US

Have questions about the data? Need some assistance? Use the links below to quickly find the answers you need.

[Online help](#)

[Check request status](#)

[Request assistance](#)

[Contact Us](#)

Need technical documentation or system access?

[View data samples & documentation](#)

[NCDC Web Services](#)

[CDO Web Services Documentation](#)

View Dataset Documentation



# Data Access and Certification

You are receiving this email because a request was made using this email address at the NCDC Climate Data Online website. This email is automatically created and distributed; please do not reply to this email. To ensure you receive emails from NCDC, please add [noreply@noaa.gov](mailto:noreply@noaa.gov) to your address book.

Having issues reading this email?  
[Click here to view in your browser.](#)



**NOAA** NATIONAL CLIMATIC DATA CENTER  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



Your data request is complete and ready to download

<http://www1.ncdc.noaa.gov/pub/orders/cdo/137923.pdf>

## Order Summary

Order Number: 137923  
Order Status: Complete  
Requested Format: GHCN-Daily PDF  
Email Address: [Stuart.Hinson@noaa.gov](mailto:Stuart.Hinson@noaa.gov)  
Date Submitted: 2013-3-12 13:20 EST  
Date Completed: 2013-3-12 13:20 EST

## Period of Request

Start Date: 1/1/2013  
End Date: 1/31/2013

## Documentation

Link: [View Documentation for ordered data](#)

## Requested Data

Stations: **GHCND:USW00013872 - ASHEVILLE, NC US**

Access

Certification

## CERTIFICATION

Certain data sets can be certified for court cases or insurance claims. Certification fees vary based on the amount of data requested. [Learn more about certification.](#)

**Certify this order**

## HELPFUL LINKS

[Track your request online](#)

[View the documentation for the data you ordered](#)

[Climate Data Online website](#)





# Output Type - Raw csv data files, imported into Excel

137941.csv - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	STATION	STATION_NAME	ELEVATION	LATITUDE	LONGITUDE	DATE	PRCP	SNOW	SNWD	TMAX	TMIN	TOBS	
2	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130101	86	0	0	67	17	61	
3	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130102	5	0	0	61	22	28	
4	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130103	0	0	0	50	-6	-6	
5	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130104	0	0	0	44	-28	-17	
6	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130105	0	0	0	100	-44	39	
7	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130106	0	0	0	67	17	33	
8	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130107	0	0	0	122	-11	39	
9	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130108	0	0	0	122	-11	56	
10	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130109	0	0	0	100	56	94	
11	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130110	0	0	0	178	67	111	
12	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130111	28	0	0	150	89	133	
13	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130112	0	0	0	228	122	161	
14	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130113	5	0	0	206	156	161	
15	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130114	396	0	0	161	67	67	
16	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130115	269	0	0	117	67	94	
17	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130116	69	0	0	156	83	106	
18	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130117	564	0	0	106	0	0	
19	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130118	0	0	0	89	-17	6	
20	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130119	0	0	0	133	-22	22	
21	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130120	0	0	0	128	-17	39	
22	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130121	0	0	0	94	-22	-11	
23	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130122	0	0	0	-11	-72	-39	
24	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130123	0	0	0	67	-44	-6	
25	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130124	0	0	0	61	-39	-39	
26	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130125	3	0	0	33	-56	33	
27	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130126	0	0	0	78	0	0	
28	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130127	8	0	0	67	-28	28	
29	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130128	0	0	0	183	17	94	
30	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130129	8	0	0	222	50	156	
31	GHCND:USW00013872	ASHEVILLE NC US	682.1	35.59528	-82.55667	20130130	620	0	0	172	72	72	





### Climate Data Online: Text & Map Search

Search by station name or locate on a map

Use the tabs below to select a search method for available climate data. Use the Map Search tab to search via a map based interface, use the Data Search tab to search via a text based interface, or use the FTP & Legacy Access tab to use the older search based access tools.

Map Search

Data Search

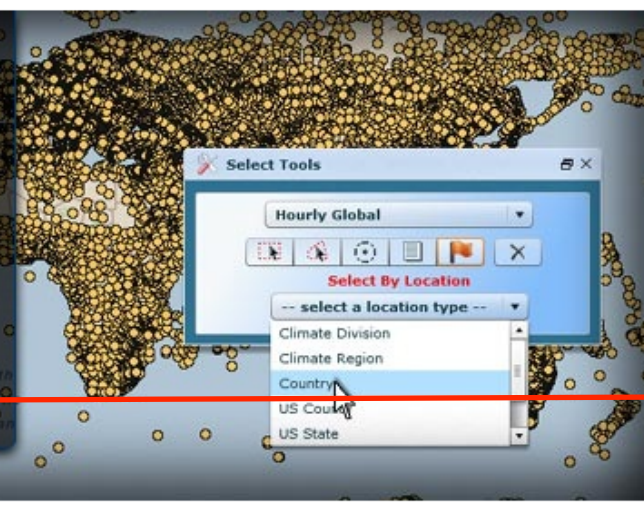
FTP & Legacy Access

Metadata Search

#### Interactive Map Application

Allows Data Access using a map to search by countries, states, cities, ZIP code, climate divisions and hydrologic units. Many other geographic tools and secondary functions available.

Go to map application



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[Request assistance](#)

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[NCDC Web Services](#)

[CDO Web Services Documentation](#)

Go to Map Application



# CDO Map Viewer

<http://gis.ncdc.noaa.gov/map/viewer/>

The screenshot displays the NOAA CDO Map Viewer interface. A central panel lists several map themes: Temperature, Snowfall, Precipitation, Climate Indices, Marine, and Normals. The Normals theme is highlighted with a red arrow pointing to a box labeled 'Normals'. The interface includes a map of the United States, a scale bar (0 to 10000 km), and various navigation tools. The NOAA logo and 'NATIONAL CLIMATIC DATA CENTER' are visible at the top of the panel.

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Map Themes | Time-Related Maps | Program Maps | All Maps

- Temperature**  
- current and historical conditions
- Snowfall**  
+ [show more]
- Precipitation**
- Climate Indices**  
- displays indices information
- Marine**
- Normals**  
- US Normals Data (1981-2010)

Normals

Map v3.3

Map Scale 1:147,748,799

Latitude: Longitude:



# Identify product type and select location

3. Enter desired location city/town or zip code

4. go

1981-2010 US Normals Data

Locator: Asheville Go

Basemaps Tools: Select Tools

Annual Climate Normals

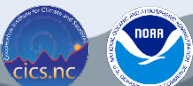
Layers

	Visible	Transparency
Hourly Climate Normals	<input type="checkbox"/>	90%
Daily Climate Normals	<input checked="" type="checkbox"/>	90%
Monthly Climate Normals	<input type="checkbox"/>	90%
Annual Climate Normals	<input checked="" type="checkbox"/>	90%

1. Uncheck "Daily" Climate Normals

2. Check "Annual" Climate Normals

Current Tool: Pan Map Scale: 1:36,937,199 Latitude: 37.139037 Longitude: -76.443828





# Zoom to location and select stations

**1981-2010 US Normals Data**

Locator: Asheville Go

Basemaps Tools: [Icons]

Select Tools

Annual Climate Normals

Select By Rectangle  
Left-click hold, and draw a rectangle on the map.

Layers

	Visible	Transparency
Hourly Climate Normals	<input type="checkbox"/>	90%
Daily Climate Normals	<input checked="" type="checkbox"/>	90%
Monthly Climate Normals	<input type="checkbox"/>	90%
Annual Climate Normals	<input checked="" type="checkbox"/>	90%

20 Result(s) for: 'Asheville'

(Click a location below to redirect the map)

- Asheville, North Carolina, United States
- Acheville, fourth-order admin. division, Nord-Pas-de-Calais, France
- Ashewe, Ondo, Nigeria
- Ashewe, Ondo, Nigeria

2. Use select tool To draw box around stations of interest

1. Double-click location

Current Tool: Select By Rectangle

Map Scale: 1:144,285

Latitude: 35.507976 Longitude: -82.493338

Map v3.3



# Add selected data your your cart

The screenshot displays the NOAA Climate Data web application interface. The main map shows the Asheville, North Carolina area with a red grid overlay. The 'Layers' panel on the right shows 'Daily Climate Normals' selected. The 'Results' panel at the bottom displays a table of climate data for Asheville, North Carolina, with checkboxes for 'ASHEVILLE', 'CANDLER 1 W', and 'ENKA'. The 'Get Selected Data' button is highlighted with a red arrow.

**1981-2010 US Normals Data**

Locator: Asheville Go

**Layers**

- Hourly Climate Normals
- Daily Climate Normals**
- Monthly Climate Normals
- Annual Climate Normals

**Results**

Annual Climate Normals

Use checkboxes below for single/multiple data access (maximum 1000)

<input type="checkbox"/>	Station	Station Id	Period of Record	State	Country	Latitude	Longitude	Elevation
<input checked="" type="checkbox"/>	ASHEVILLE	GHCND:USW00013872	1981 - 2009	North Carolina	United States	35.595°	-82.556°	682.1 m.
<input type="checkbox"/>	CANDLER 1 W	GHCND:USC00311420	1981 - 2009	North Carolina	United States	35.545°	-82.698°	718.4 m.
<input checked="" type="checkbox"/>	ENKA	GHCND:USC00312837	1981 - 2009	North Carolina	United States	35.540°	-82.653°	624.800 m.

Get Selected Data 3 records found

1. Place checkmarks in the stations you wish to use

2. Click the "Get Selected Data" button

## Review Order

### Requested Data Review

**Data Set:** Normals Annual/Seasonal  
**Years:** 2010  
**Months:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12  
**Output Format:** Summary of Annual/Seasonal Normals PDF  
**Stations/Locations:** ASHEVILLE, NC US (Station ID: GHCND:USW00013872)  
ENKA, NC US (Station ID: GHCND:USC00312837)

2. Enter E-mail address

## Review and Submit Order

### Review Order

Please review these selected items from your CDO request: data set, output type, output date ranges, data types (if applicable), and stations and locations.

If all looks good, enter a valid email address that CDO will use to send tracking and data download instructions for this order.

Then, click the "SUBMIT ORDER" button to finalize the order. By submitting this request, you agree with *both* the disclaimer and the privacy policy.

### Enter email address

Email Address

Verify Email Address

Remember my email address

NOAA will not share your email address with anyone. The email address will not be used for any other purpose other than allowing this field to be prepopulated. The data is stored in the form of a browser cookie for seven (7) days and can be removed at anytime.

**SUBMIT ORDER**

**BACK TO SEARCH**



**NOAA** NATIONAL CLIMATIC DATA CENTER  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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SEARCH

Home > Climate Data Online > Cart: Normals Annual/Seasonal

## View/Edit Your Cart

Below is a list of stations/locations that have been selected and are currently in the queue for checkout. When you are ready to submit your order, select the format in which you would like to have the data delivered, select the date/time range, then click the "CONTINUE" button to the right.

There is no fee for requesting or accessing data via Climate Data Online. The only service that requires payment is certification. [Learn more about certification.](#)

Sort: As Added to Cart

### ASHEVILLE, NC US

[View Full Details](#) | [Quick Details](#)

Station ID: GHCND:USW00013872

Location: Undefined

Period of Record: 2010-01-01 : 2010-01-01

Remove

### ENKA, NC US

[View Full Details](#) | [Quick Details](#)

Station ID: GHCND:USC00312837

Location: Undefined

Period of Record: 2010-01-01 : 2010-01-01

Remove

### Additional options

#### Select the date/time range

Select ranges below by holding down the shift key while clicking. Use the control key to select non-sequential options.

Note: only the "Normals (1981-2010)" data are currently available for download

YEAR(S)

2010

#### Select the output format

Summary of Annual/Seasonal Normals PDF  
[DOC Certification Option](#)

Custom Annual/Seasonal Normals CSV  
(Click Continue to select data types.)

Custom Annual/Seasonal Normals Text  
(Click Continue to select data types.)

1. Select output format



# Frost / Freeze Data for Asheville , NC 1980-2010

03/11/2013

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

## Summary of Annual Normals 1981-2010

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

Station: ASHEVILLE, NC US

GHCND:USW00013872  
Elev: 682 ft. Lat: 35.595° N Lon: 82.557° W

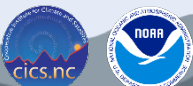
Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (through Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/09	5/03	4/30	4/26	4/22	4/19	4/16	4/12	4/07
32	4/27	4/20	4/16	4/13	4/10	4/07	4/03	3/31	3/24
28	4/14	4/09	4/05	4/01	3/29	3/25	3/20	3/15	3/08
24	4/03	3/28	3/23	3/18	3/14	3/09	3/05	2/28	2/21
20	3/23	3/15	3/09	3/03	2/27	2/22	2/17	2/11	2/04
16	3/11	3/01	2/23	2/18	2/12	2/06	2/02	1/29	1/18
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/04	10/08	10/11	10/14	10/17	10/20	10/23	10/26	11/01
32	10/12	10/18	10/22	10/25	10/28	11/01	11/03	11/07	11/12
28	10/25	10/31	11/03	11/06	11/09	11/13	11/16	11/21	11/29
24	11/07	11/13	11/17	11/21	11/26	11/30	12/03	12/07	12/15
20	11/21	11/28	12/01	12/05	12/09	12/13	12/18	12/24	1/01
16	12/02	12/08	12/12	12/16	12/21	12/25	12/30	1/06	1/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	198	191	185	181	177	173	168	162	155
32	223	215	209	204	200	196	191	185	177
28	252	243	237	231	226	221	216	210	202
24	284	275	268	261	256	250	244	238	229
20	314	304	297	290	285	279	272	265	255
16	337	328	321	314	308	302	296	289	278

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

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1981-2010 serially complete daily data

Complete Documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)



# Thanks!

## Questions?

### Contact Information:

**NCDC Climate Services Division**

**[NCDC.Orders@noaa.gov](mailto:NCDC.Orders@noaa.gov)**

**828-271-4800 x2**

