



2014

PRODUCTS AND SERVICES
GUIDE



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NOAA's National Climatic Data Center

PRODUCTS AND SERVICES GUIDE

*NOAA's NATIONAL CLIMATIC DATA CENTER
ASHEVILLE, NC*



2014 Edition

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See www1.ncdc.noaa.gov/pub/data/inventories/2014psguide.pdf for a digital copy of this guide.

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A Message from the National Climatic Data Center's Director

The National Climatic Data Center (NCDC) offers a wide variety of products and services. Our users range from professional atmospheric scientists studying and predicting the weather and climate to large engineering firms designing the latest in safe, energy-efficient structures to attorneys documenting a weather event to the individual planning for a retirement move.

NCDC's services include data distribution through web services, climate monitoring, climate summaries and analyses, resource consultations, publications, copies of original records, data certifications, and a host of other climate-related activities. We deliver services on a variety of media including online access, CD-ROM, DVD, computer tabulations, maps, and publications.



Photo courtesy of U.S. Mission, Eric Bridiers

Thomas R. Karl
NCDC Director

About the National Climatic Data Center

NOAA's National Climatic Data Center, headquartered in Asheville, North Carolina, maintains the world's largest climate data archive and provides climatological services and data to every sector of the U.S. economy and to users worldwide. Records in the archive range from paleoclimatology data to centuries-old journals to data less than an hour old. The Center's mission is to preserve these data and make them available to the public, business, industry, government, and researchers.

NCDC Mission

To Steward the Nation's Climate Information

NCDC is responsible for preserving, monitoring, assessing, and providing public access to the Nation's treasure of climate and historical weather data and information.

NCDC Vision

To Be the Nation's Trusted Authority on Climate and Historical Weather Information

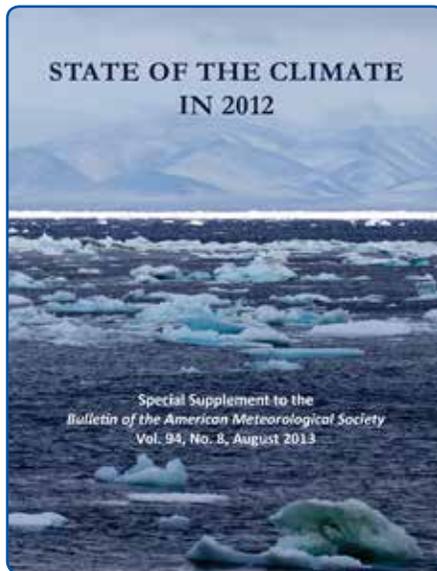
NCDC will be the most comprehensive, accessible, and trusted source of state-of-the-art climate and historical weather data, information, and climate monitoring.



Highlights

Assembling the State of the Climate in 2012 Report

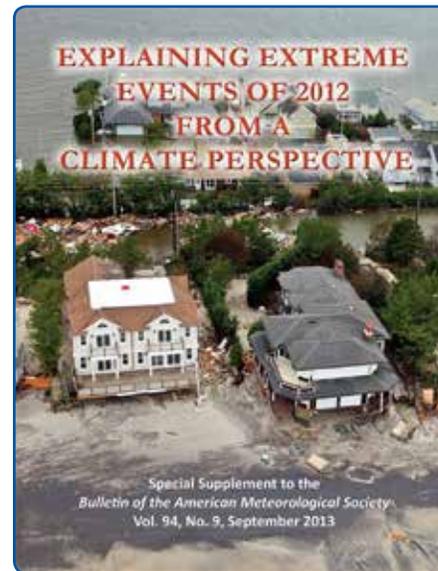
The “State of the Climate” series has provided a detailed update on global climate indicators, notable weather events, and other data collected by environmental monitoring stations and instruments since the report’s inception in 1990. For the 13th consecutive year, National Climatic



Data Center (NCDC) scientists served as lead editors of the report, which was compiled by 384 scientists from 52 countries across the globe and published as a supplement to the *Bulletin of the American Meteorological Society*. For the second year, the report was accompanied by an online rollout at Climate.gov, providing easy access to key themes of the report for the public.

The report used dozens of internationally recognized climate indicators to track and identify changes to and overall trends in the global climate system. Each indicator includes thousands of measurements from multiple independent datasets. The diverse array of international authors helped consolidate this wide range of data, using their expertise to more fully understand and communicate the state of the complex climate system. Overall, the report provides a valuable reference for the increasing number of professionals and consultants who consider climate conditions and trends in their work.

Explaining Extreme Events of 2012 from a Climate Perspective



For the second year, NCDC scientists collaborated with their colleagues across the globe to examine the causes of certain extreme events. Scientists from NCDC served as part of the team of lead editors for the report, entitled *Explaining Extreme Events of 2012 from a*

Climate Perspective and published as a supplement to the *Bulletin of the American Meteorological Society*. Overall, 18 different research teams from around the world contributed to the peer-reviewed report that examined the causes of 12 extreme events that occurred on five continents and in the Arctic during 2012. In addition to investigating the causes of these extreme events, the multiple analyses of four events allowed the scientists to compare and contrast the strengths and weaknesses of their various analysis methods. Despite their different strategies, there was considerable agreement between the assessments of the same events. By further developing the ability to put extreme weather and climate events into the longer-term context of climate change, NCDC is helping provide the public with the information needed to make decisions about effectively minimizing and preparing for the impacts of these events.

Sustaining Climate Data Records in Operations

NCDC expanded its national inventory of operational Climate Data Records (CDRs) to 16 by transitioning five new CDRs from research into operations in 2013, which included the atmosphere mean layer temperatures record, microwave imager and sounder records, and a global precipitation record. All of the 16 operational CDRs provide input to emerging climate prediction modeling as well as capture and maintain the nation's record of climate history, including the severity and frequency of drought, floods, and hurricanes. Produced from decades of satellite data and used by industry, government, and research communities to detect, assess, model, and predict climate change, decision makers value these long-term records for devising effective strategies to respond to, adapt to, and mitigate the impacts of climate variability and change.

In order to produce CDRs, NCDC developed long-term, homogeneous records characterizing climate change and variation. As new climate algorithms and sensor knowledge are developed, NCDC reprocesses the entire period of record to update the data. Further, although no standards existed for such long-duration software and algorithm maintenance, NCDC applied software engineering expertise and tailored existing standards and best practices. NCDC also devised new requirements to ensure that CDR software design and documentation can accommodate migration to future computing platforms and software languages.



NOAA's Climate Data Record Annual Meeting Attendees

Developing an Independent Record of Global Temperatures

In collaboration with researchers from the University of South Carolina, the University of Colorado, and the University of Bern in Switzerland, NCDC developed a compilation of temperature records based on data from ice cores, corals, and lake sediment layers that revealed a pattern of global warming from 1880 to 1995 comparable to the global warming trend recorded by thermometers. While the thermometer-based global surface temperature record provides meaningful evidence of global climate change over the past century, it is critical to have independent analyses to verify that record because it can be affected by land-use changes, shifts in station locations, variations in instrumentation, and more. For this analysis, the team used environmentally sensitive proxies to compile a temperature record spanning 130 years that is independent from thermometer-based records. The research, which was detailed in "Global Warming in an Independent Record of the Past 130 Years" published in *Geophysical Research Letters*, resolved some of the uncertainty associated with thermometer records.

Transitioning the Optimum Interpolation Sea Surface Temperature Climate Data Record into Full Operations

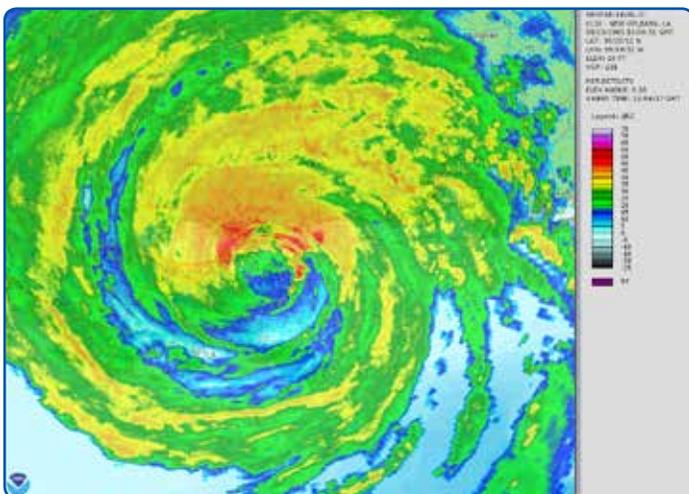
NCDC transitioned the Optimum Interpolation Sea Surface Temperature (OISST) Climate Data Record (CDR) into full operations in 2013. The OISST CDR consists of high-resolution sea surface temperature analysis products produced daily on a quarter-degree grid using different types of satellite data along with surface-based data from ship and buoys to validate the satellite data. The OISST analysis method combines the advantages of both surface-based data and satellite data, effectively eliminating any discrepancies between them and ensuring a consistent dataset. In transitioning OISST into full operations, NCDC developed a process to assess the current state of the product's software and rejuvenate the research code into reliable and sustainable software that adheres to coding standards and is well documented and tested. This use-inspired CDR will now be sustained more efficiently and cost effectively well into the future.

Updating Hourly Climate Normals

In response to user needs and feedback, NCDC updated and expanded the hourly Climate Normals dataset, which includes averages of climatological variables such as temperature, dew point, cloud coverage, various wind statistics, wind chill, and heat index. NCDC expanded the standard 30-year hourly Climate Normals dataset to include nearly 200 stations and updated it for the 1981–2010 period. Additionally, NCDC created a new record of 10-year hourly Climate Normals, and the introduction of Automated Surface Observing System data in the 1990s allowed this record to include over 800 stations with even greater spatial coverage than the 30-year Normals. These use-inspired products will enable decision makers to be better informed and will allow researchers to compare 30-year and 10-year Normals to gain perspective on how the climate may have changed at certain locations.

Visualizing Phenomena with the Weather and Climate Toolkit

NCDC’s Weather and Climate Toolkit (WCT) provides simple visualization and data export of the weather and climate data archived at the Center, including radar, satellite, ground-based, and model data. Built upon scalable, open-source, and community-driven software, the WCT is both free and platform-independent making it easily accessible to a variety of users in the private, research, educational, and government sectors. In 2013, NCDC further enhanced the WCT to provide support for exporting in Google Earth format and creating station time series structured according to established Discrete Sampling Geometries conven-



Hurricane Katrina Image from NOAA’s Weather and Climate Toolkit

tions. NCDC also used the WCT to provide the public with easy to understand visualizations of the May 2013 Moore, Oklahoma, tornado and the September 2013 rainfall event near Boulder, Colorado.

Engaging Users with Workshops and Forums

In 2013, NCDC collaborated with the Cooperative Institute for Climate and Satellites–North Carolina (CICS-NC) to host two workshops and two forums to engage climate data users and business leaders. One of these was the “Frost and Freeze Data and Impacts to the Agriculture, Construction, and Transportation Industry” workshop held in March. The two-day workshop focused on informing users of NCDC data offerings for sector-specific climate information needs and providing relevant information to the industries that are the most vulnerable and susceptible to changes in freezing conditions. Another similar workshop entitled, “Climate Data and Applications Workshop: A Focus on Precipitation” was held at NCDC in December 2013. This two-day workshop focused on the different types of precipitation data, from land-based to remotely sensed observations, available from CICS-NC and NCDC, as well as examples of how the data are useful in various applications.

Additionally, NCDC and CICS-NC hosted the inaugural “Executive Forum on Business and Climate” in June in Asheville, North Carolina. This forum brought together business and industry leaders, academic researchers, and climate science experts to collectively examine weather and climate science trends, observations and predictions, related business risks, impacts and opportunities, and current market trends. The forum engaged participants through a combination of interactive discussions, case studies, and scenario-planning activities. We also partnered with the Center for Climate and Energy Solutions (C2ES) to host a follow-up forum, “Identifying Business / Industry Needs for Resilience Planning,” in Washington, DC, in November. This second Executive Forum on Business and Climate served as a knowledge exchange seminar and networking activity built around discussions on climate-related risks and opportunities for private sector businesses.

Delivering the Draft National Climate Assessment for Public Review

The Global Change Research Act of 1990 requires the Federal Government to produce an assessment of climate change and impacts in the United States every four years. In an effort to fulfill this requirement, NCDC hosts the Technical Support Unit that supports scientific, editorial, graphical, and web activities for the Third National Climate Assessment, scheduled for final publication in 2014. Together with NCDC's Graphics Team, the Technical Support Unit assembled a draft of the Assessment and released it for public review in 2013. More than 4,000 comments were received by the end of the review period, and each of them was considered and responded to with appropriate edits in the report. The Third National Climate Assessment will provide the public with current information on climate change, its impacts, and response options for the United States.

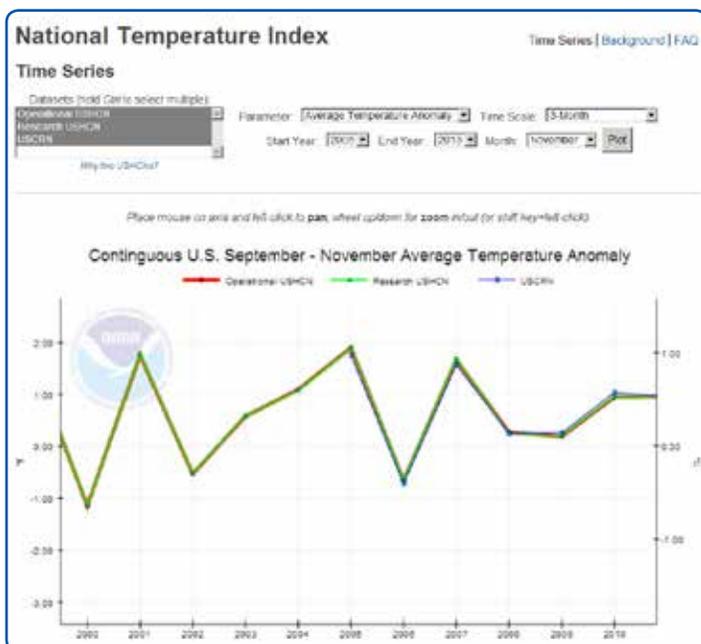
Launching the National Temperature Index Page

NCDC currently maintains archives of temperature measurements from two different observing networks: the U.S. Climate Reference Network (USCRN) that dates back to the 2000s and the U.S. Historical Climatology Network (USHCN) that dates back to the late 1800s. To provide the public an easy way to compare temperature

data from these two networks, NCDC created the National Temperature Index page. Using a complex multistep process, NCDC created an index of temperature anomalies for each of these datasets in relation to a 1981–2010 reference period that updates dynamically each month. Users of the National Temperature Index page can compare the anomaly values from each of the datasets on 1-month, 3-month, 6-month, and 12-month time scales. This tool also demonstrates that the established USHCN—used for many years in a variety of climate analyses—produces robust results when compared to the highest quality measurements of the same air temperatures taken at USCRN stations. The page also provides users with a variety of detailed background information, ensuring the public of NCDC's mission to employ rigorous refereed science, validated data integrity, and transparent analysis methods.

Enhancing the NCDC Website and Home Page

In May 2013, NCDC enhanced its website and redesigned its home page to simplify access to systems, provide a better path to data and services, make site maintenance more efficient, and begin using Google Analytics to better analyze website traffic and anticipate and respond to customer needs. This enhanced redesign features better navigation for major topical areas, including data access and climate information, and streamlines content and data access systems into logical groupings. Global customers will now be able to easily gather pertinent data and information for their needs and operations.



Sample image from the National Temperature Index page



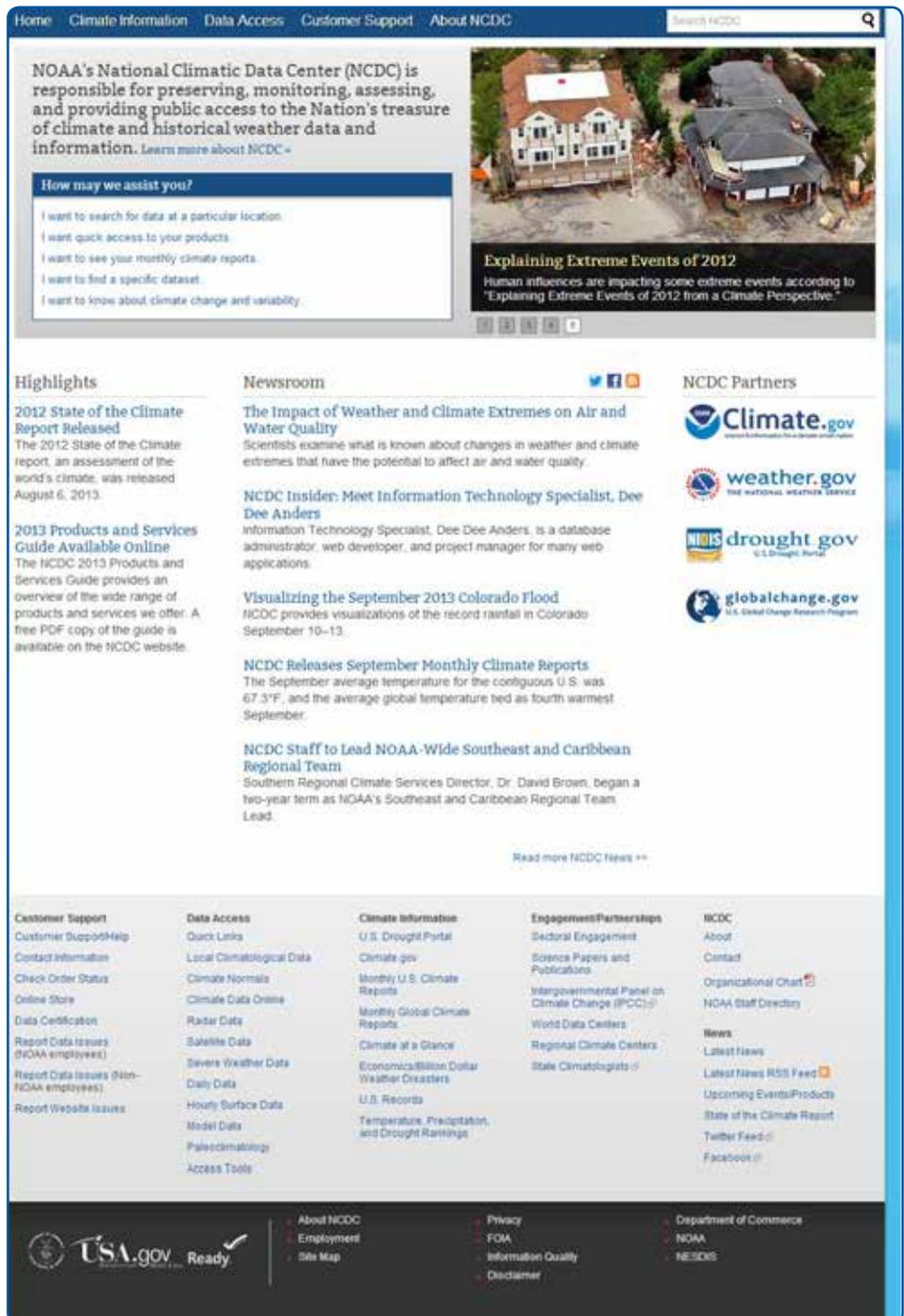
Online and Operational Services

NCDC hosts and maintains a website at www.ncdc.noaa.gov. We released a completely redesigned version of our website in September 2012, with additional revisions and updates in May 2013.

Climate Information and **Data Access** continue to be the focus of the home page. With the addition of a user-oriented “How may we assist you?” section near the top, a Highlights and Newsroom section in the center, and the web index at the bottom, users can easily navigate the website more effectively. The search functionality at the top of the page allows users to explore the entire NCDC website using keywords, phrases, and more.

The NCDC web system includes access to U.S. and global climate data, model data, satellite data, radar images, inventories of datasets available offline, publications, climate monitoring reports, special reports on extreme weather events, and an online ordering system. More than 5.3 petabytes of data and information were downloaded by our customers during the 2013 fiscal year.

Useful ways of navigating our website are detailed within the following pages and throughout the Products and Services Guide.





Online and Operational Services

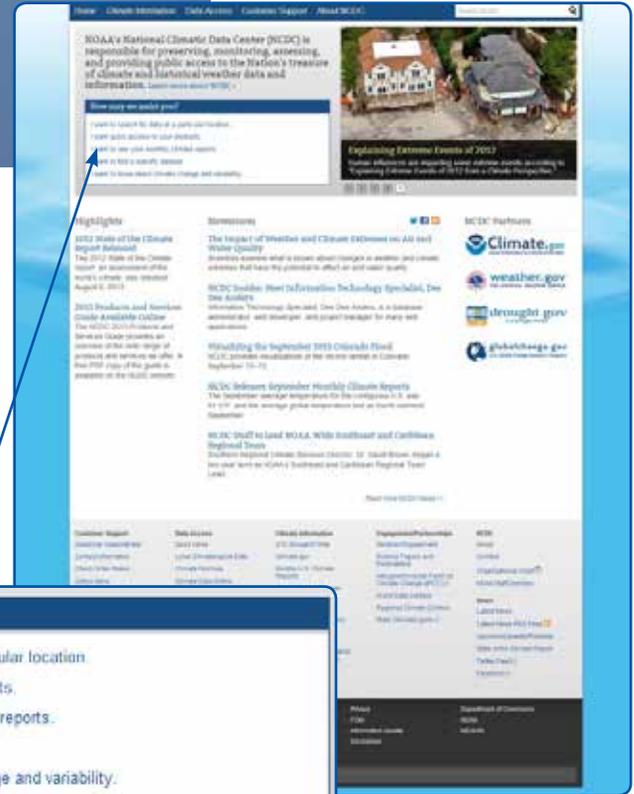
Web Navigation

NCDC released an update of our redesigned website, www.ncdc.noaa.gov, in May 2013. The additional changes to the home page create a more inviting entry point in addition to offering a more intuitive way to access the Center's vast datasets, products, services, and archives. NCDC continues to incorporate all of its existing web pages into the new content management system to create a fully integrated website.

The addition of the "How may we assist you?" section allows users to simply click on the statement that best answers their data need and quickly navigate to that specific web page.

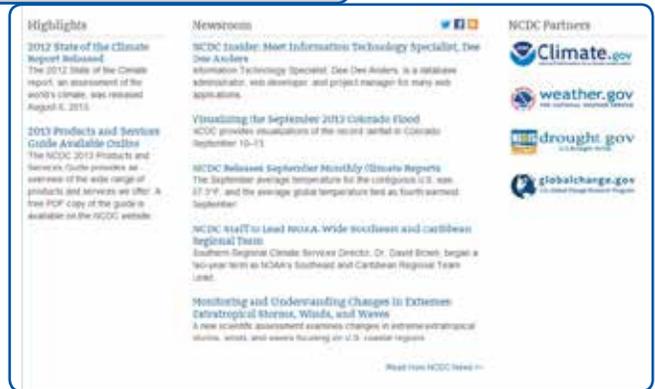
The entire center of our main web page focuses users on current NCDC **Highlights**, the **Newsroom**, and quick access to the websites of NCDC's **Partners**.

The addition of the web content index at the bottom of our main web page allows users who are more familiar with our datasets, products, and services to quickly access what they need. Simply scroll to the bottom of the main page, click on the item of interest, and users are taken directly to that area of our website.



How may we assist you?

- [I want to search for data at a particular location.](#)
- [I want quick access to your products.](#)
- [I want to see your monthly climate reports.](#)
- [I want to find a specific dataset.](#)
- [I want to know about climate change and variability.](#)



<ul style="list-style-type: none"> Customer Support Customer SupportHelp Guested Information Check Order Status Online Store Data Certification Region Data Issues (FICA employment) Report Data Issues (Non-NOAA employees) Report Website Issues 	<ul style="list-style-type: none"> Data Access Quick Links Local Climatological Data Climate Normals Climate Data Online Radar Data Satellite Data Severe Weather Data Daily Data Hourly Surface Data Model Data Parameters/units Access Tools 	<ul style="list-style-type: none"> Climate Information U.S. Drought Portal Climate.gov Monthly U.S. Climate Reports Monthly Global Climate Reports Climate at a Glance Economics/Bioscience Data Weather Disasters U.S. Records Temperature, Precipitation, and Chirp/Hearings 	<ul style="list-style-type: none"> Engagement/Partnerships Sectional Engagement Science Papers and Publications Intergovernmental Portal on Climate Change (IPCC) World Data Centers Regional Climate Centers State Climatologists 	<ul style="list-style-type: none"> NCDC About Contact Organizational Chart NOAA INFORMATION News Latest News Latest News RSS Feed Upcoming Events/Products State of the Climate Report Twitter Feed Facebook
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Other useful and suggested methods of navigating our website are detailed within the following pages of this section.

Users are encouraged to contact our customer support staff by telephone, 828-271-4800, option number two, or by email at ncdc.orders@noaa.gov or nndc.webborder@noaa.gov for expert assistance with exact data needs.

Climate Information and Data Access

You can access key climate information and data from the NCDC home page using the tabs across the top.



NCDC puts a priority on interpreting and applying scientific understanding to our extensive array of climate datasets. Some of the products and output derived from this effort include extreme event and dynamically generated climate information.

The **Climate Information** tab navigates users to the datasets, products, and online systems that provide direct access to such popular items as the Climate of the United States, Analyses, Extreme Events, Statistical Weather and Climate Information, Science Papers and Publications, and more. Users can find detailed descriptions available on this web page.

NCDC is the world's largest provider of weather and climate data. Land-based, marine, model, radar, weather balloon, satellite, and paleoclimatology are just a few of the types of datasets available. The **Data Access** tab allows users to quickly navigate to each dataset. The **Quick Links** section, formerly known as Most Popular Products, provides direct links to our most used datasets, products and online systems such as Climate Data Online.

Detailed information on each of the individual datasets is provided in their own sections of the Products and Services Guide.



Climate Data Online System with Web Services

www.ncdc.noaa.gov/cdo-web

NCDC continues to enhance the **Climate Data Online (CDO)** system with the latest version, 3.0 released in July 2013, that includes map and search integration and access to radar data and multiple orders. The three primary entry points of the user interface—**Dataset**, **Search Tool**, and **Mapping Tool**—for data acquisition are unified methods using an integrated underlying data model, which allows development of a consistent user interface and provides access to most products and services through a single system. NCDC will continue to transition more datasets and systems to the new acquisition service. Our goal is to provide users with a consistent approach to data discovery across all data networks.

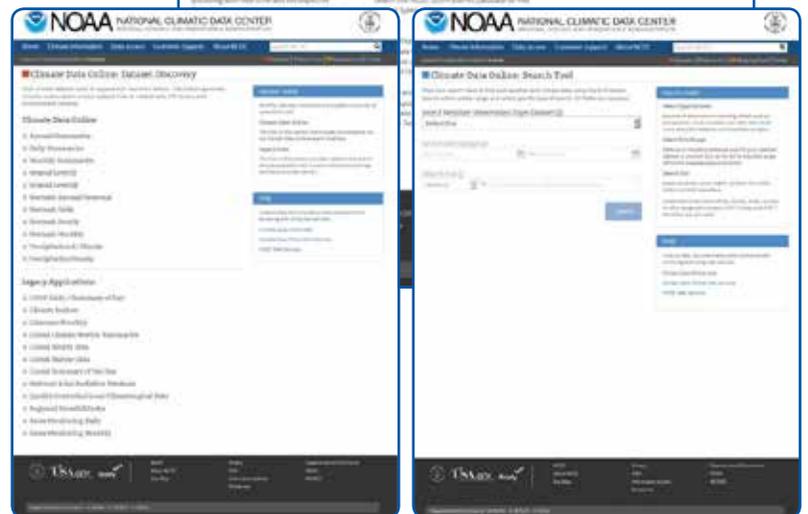
The **Dataset** section allows users to browse descriptions, samples, data tools, documentation, and more, for all datasets contained within the new CDO. It also provides access to the legacy CDO systems and the datasets that have yet to be transitioned to the new system.

www.ncdc.noaa.gov/cdo-web/datasets

The **Search Tool** functionality allows users to search by common station name, station identifier, zip code, country, county, state, or hydrologic unit. The search results can be categorized by either representing a single station or by location (a group of stations). Users can then filter or sort the results to meet their needs. Users can select stations or locations, data types, and a time range of interest and order the data in CSV, ASCII text, and PDF output forms.

www.ncdc.noaa.gov/cdo-web/search

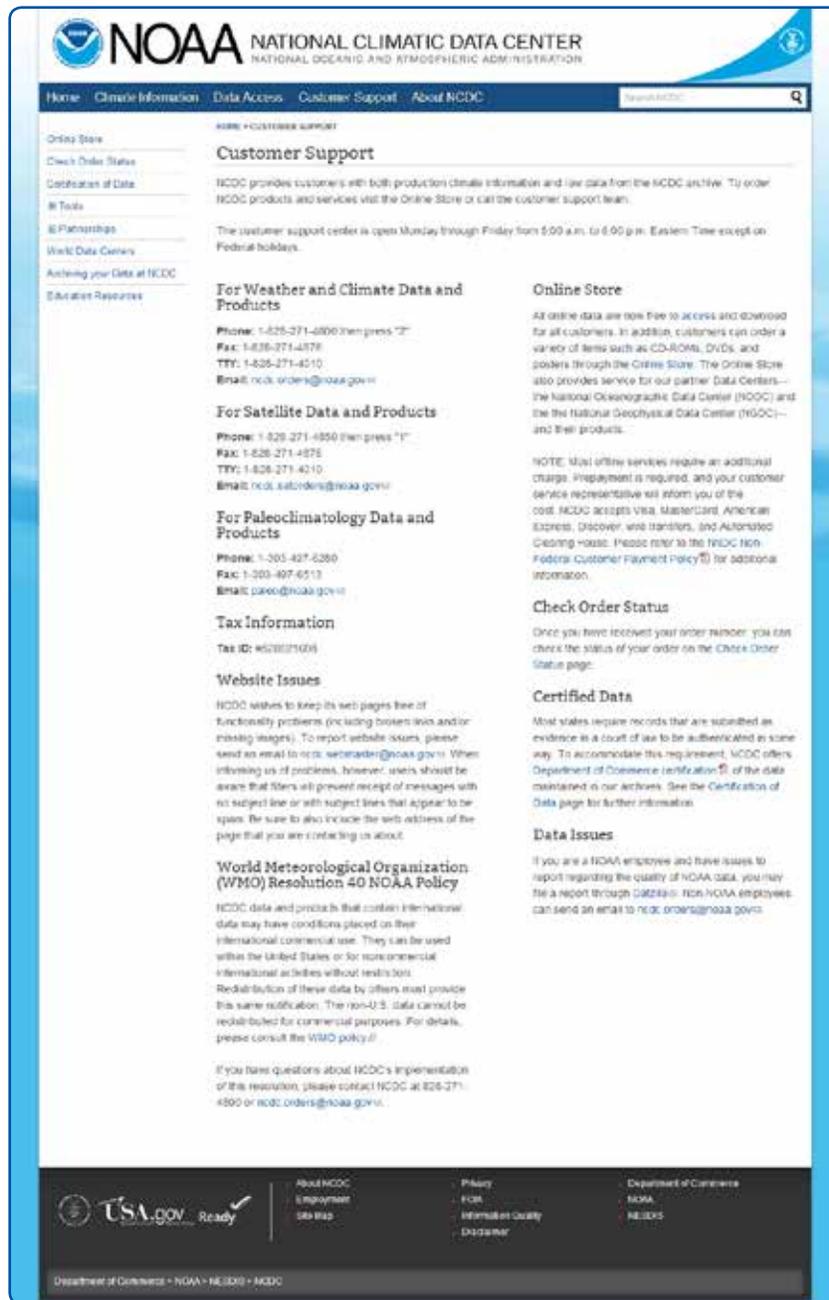
The **Mapping Tool**, by means of dynamic mapping applications, allows users to visually discover NCDC data through a geographic information system. As a starting point, maps display the station distribution of the various data networks archived at NCDC. Users can display these stations by the frequency of collection or summarization (sub-hourly, hourly, daily, monthly, or annually) or by climate theme (temperature, precipitation, drought, snowfall). A number of tools allow users to select stations by location (country, state, county, zip code, hydrologic unit), by freehand (rectangle/polygon), by proximity from a point, or by gazetteer



(geographic name search). Users can also order the data from the resulting station search.

gis.ncdc.noaa.gov/map/viewer/#app=cdo

CDO Web Service v2 was also included with the latest release of CDO. The web services provide access to current data through an application programming interface and were designed for developers looking to create their own scripts or programs that use the CDO database of weather and climate data. Visit www.ncdc.noaa.gov/cdo-web/web-services/v2 for information.



NOAA's National Data Centers Customer Support

NCDC provides customers with both production climate information and raw data from our archive. To order NCDC's products and services, visit the online store or call the customer support team. The customer support center is open Monday through Friday from 8:00 a.m. to 6:00 p.m. Eastern Time. Online access to the customer support

web page is available from the **Customer Support** tab at the top of the NCDC main web page.

The customer support web page provides users with information about NCDC, its website, and contact information. The page also provides support information regarding the NCDC online store, checking your order status, and certified data as well as links to educational resources.

www.ncdc.noaa.gov/customer-support



Online and Operational Services

In Situ Data

The screenshot shows the NOAA National Climatic Data Center website. The header includes the NOAA logo and the text 'NOAA NATIONAL CLIMATIC DATA CENTER NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'. Below the header is a navigation menu with links: Home, Climate Information, Data Access, Customer Support, and About NCDC. A search bar is located on the right side of the header. The main content area is titled 'Land-Based Station Data' and includes a 'Quick Links' sidebar with categories like Land-Based Station, Satellite, Radar, Model, Weather Balloon, Marine / Ocean, Paleoclimatology, and Severe Weather. The main text describes land-based observations and lists two key actions: 'Datasets and Products' and 'Find a Station'. A photograph of weather instruments is shown on the right, with a caption: 'Measuring instruments used for current observations and data reporting.'

www.ncdc.noaa.gov/data-access/land-based-station-data

Land-based 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. NCDC provides a broad level of service associated with *in situ* observations.

General Information

1. The periods of record for these datasets vary considerably depending on data type and station.
2. All references to quality control (QC) pertain strictly to data checking and corrections performed within the Federal Climate Complex. Other gross QC is usually performed at the point of origin such as the National Centers for Environmental Prediction (NCEP) and the Air Force Weather Agency.
3. The media available are CD-ROM, DVD, and FTP. These options vary depending on the dataset.
4. All online data are free of charge. Also, some online data are available through interactive systems in addition to FTP.
5. This is only a summary of the major digital datasets available from NCDC. Many other datasets and data types, in addition to those listed below, are available. See www.ncdc.noaa.gov/doclib for a complete list and documentation for datasets.
6. NCDC's website at www.ncdc.noaa.gov has links to numerous online datasets and data inventories. NCDC makes frequent updates to its website; users are encouraged to review it periodically.
7. Points of contact for information, cost estimates, and data requests: National Climatic Data Center, User Engagement and Services Branch, 151 Patton Avenue, Asheville, NC 28801-5001; Phone: 828-271-4800; Fax: 828-271-4876; Email: ncdc.orders@noaa.gov

DATASET: Worldwide Surface Observations (Hourly/Synoptic)—DSI3505—Integrated Surface Data (ISD)

- **Data Type:** ASCII character data
- **Quality Control:** Extensive automated QC (all data); additional manual QC for U.S. Air Force, Navy, and National Weather Service (NWS) stations
- **Data Origin:** An integration of data from numerous sources, comprising all stations available historically
- **Content and Elements:** About 20,000 stations currently active; includes wind speed and direction, wind gust, temperature, dew point, cloud data, sea level pressure, altimeter setting, station pressure, present

weather, visibility, precipitation amounts for various time periods, snow depth, and various other elements as observed by each station; observational practices vary by country

- **Period of Record:** Periods of record vary depending on years each station is active, with earliest data going back to 1901
- **Online:** www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/integrated-surface-database-isd

The screenshot shows the NOAA National Climatic Data Center website. The header includes the NOAA logo and the text "NATIONAL CLIMATIC DATA CENTER NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION". The navigation menu contains "Home", "Climate Information", "Data Access", "Customer Support", and "About NCDC". A search bar is located on the right. The main content area is titled "Integrated Surface Database (ISD)" and includes a breadcrumb trail: "HOME > DATA ACCESS > LAND-BASED STATION > DATASETS > INTEGRATED SURFACE DATABASE (ISD)". The text describes the ISD as a global hourly and synoptic observations database. A sidebar on the left lists "Quick Links" such as "Land-Based Station", "Datasets", "Climate Normals", and "World War II Era Data".

www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/integrated-surface-database-isd
 or via FTP at [ftp.ncdc.noaa.gov/pub/data/noaa](ftp://ftp.ncdc.noaa.gov/pub/data/noaa)

DATASET: Global Ship and Buoy Observations (Hourly/Synoptic) The International Comprehensive Ocean Atmosphere Data Set (ICOADS) and NCDC Global Marine Data

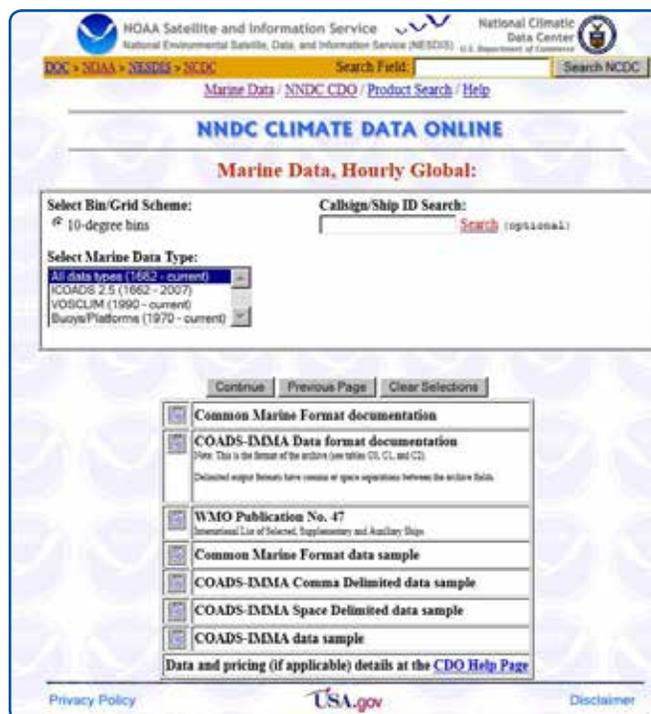
- **Data Type:** ASCII character data
- **Quality Control:** Undergoes automated QC
- **Data Origin:** Data originate from ICOADS Release 2.5, Global Telecommunications Systems (GTS), and some key-entered data
- **Content and Elements:** Includes elements observed by ships, buoys, and Coastal Marine Automated Network (CMAN) stations—temperature and dew point, wind direction and speed, visibility, present weather, sea level pressure, sea surface temperature, cloud data, ice data, and wave/swell heights and periods; generally, buoys and CMAN stations only observe temperature, wind, pressure, sea surface temperature, and wave/swell data; some ship reports include other elements; elements vary considerably by station
- **Period of Record:** As early as 1662 to present
- **Notes:** See www.ncdc.noaa.gov/doclib for further details
- **Online:** www7.ncdc.noaa.gov/CDO/CDOMarine-Select.jsp and has.ncdc.noaa.gov/pls/plhas/HAS.FileAppSelect?datasetname=1173 ICOADS Release 2.5 (1662–2007) augmented by preliminary Near-Real-Time (NRT) extensions (2008–present) is available in

monthly files via NCDC FTP access; these observations can be retrieved from the following location: [ftp.ncdc.noaa.gov/pub/data/icoads2.5](ftp://ftp.ncdc.noaa.gov/pub/data/icoads2.5)

For information on the ICOADS R2.5 monthly files, please read the following file prior to using the data: www1.ncdc.noaa.gov/pub/data/icoads2.5/Documentation/R2.5-README_ICOADS_NCDC_20120215.pdf.

For official ICOADS data access at NCDC, the user must select data type “icoads2.5.” NCDC offers only “enhanced” R2.5 observations, which were derived using 4.5 standard deviation “trimming” (quality control screening) limits to accommodate more extreme climate events and using a broad collection of marine observations including ships, buoys, and near-surface oceanographic profile temperatures. The three U.S. ICOADS partners, NCDC, NOAA’s Earth System Research Laboratory, and the National Center for Atmospheric Research offer various data access and format options. To review all available options, please see the ICOADS Products Website at icoads.noaa.gov/products.html, under the “Observations” section.

For general ICOADS information, please visit the ICOADS home page at icoads.noaa.gov.



www7.ncdc.noaa.gov/CDO/CDOMarineSelect.jsp

DATASET: Global Ship Observations (Hourly/Synoptic)—Voluntary Observing Ship Climate (VOSclim) Fleet

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes automated QC; additional QC is performed by the UKMET Office against corresponding model fields
- **Data Origin:** Data originates from GTS
- **Content and Elements:** Includes elements observed by ships—temperature and dew point, wind direction and speed, visibility, present weather, sea level pressure, sea surface temperature, cloud data, ice data, and wave/swell heights and periods; background model fields for sea level pressure, air temperature, sea surface temperature, winds and relative humidity are also included

- **Period of Record:** 2001 to present
- **Notes:** See www1.ncdc.noaa.gov/pub/data/vosclim/R2.5-imma_short.pdf for data format details
- **Online:** VOSclim Fleet Ship Metadata: www.ncdc.noaa.gov/data-access/marineocean-data/vosclim/ship-metadata
Monthly ASCII Files: www1.ncdc.noaa.gov/pub/data/vosclim
Database Access for Subsetting Purposes: www7.ncdc.noaa.gov/CDO/CDOMarineSelect.jsp



NOAA

NATIONAL CLIMATIC DATA CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



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Voluntary Observing Ship Climate (VOSclim) Fleet

The aim of Voluntary Observing Ship Climate (VOSclim) Fleet is to provide a high-quality subset of VOS data in both real time and in delayed mode, supplemented by an extensive array of metadata, to support global climate studies and research.

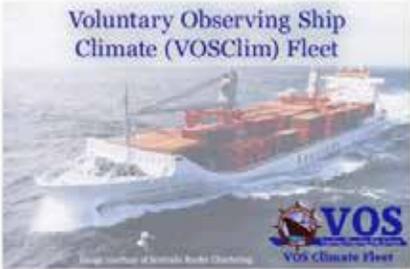
The VOSclim Fleet builds on the strong foundation of the VOS Climate Project that ran between 2001 and 2009.

The VOSclim Project followed the successful VOS Special Observing Project North Atlantic (VSOP-NA) that was conducted on behalf of the World Climate Research Project (WCRP) between May 1988 and September 1990. The aim of VSOP-NA was to establish the effects on the quality of VOS data of different ship instrumentation and observing practices.

A review of the VOSclim Project was initiated in 2008 and concluded that the operational project goals had been achieved and that there were many positive results that should be applied across the entire VOS Fleet. It was proposed and agreed at the Ship Observations Team Fifth Session (SOT-V) in 2009 to end the VOSclim Project but to create a new VOSclim class of VOS reporting vessel.

For more information on VOSclim please visit the Voluntary Observing Ship Scheme website.

- **Data Management and Access**
Data are collected at NOAA's National Climatic Data Center (NCDC), converted to a common format, and made available through FTP and database access along with supporting quality monitoring statistics.
- **Ship Metadata**
Upon recruitment of a ship into the VOSclim fleet, the Port Meteorological Officer (PMO) collects an extensive list of metadata about the ship as required for WMO No. 47 – International List of Selected, Supplementary, and Auxiliary Ships.



www.ncdc.noaa.gov/data-access/marineocean-data/vosclim

DATASET: Hourly Precipitation Data for NWS and Cooperative U.S. Stations—DSI3240

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes automated and manual QC
- **Data Origin:** Various sources, including Automated Surface Observing System (ASOS), punched tape, or electronic sensors from stations
- **Content and Elements:** Hour-by-hour precipitation amounts; about 2,800 stations currently active

- **Period of Record:** Generally, 1948 to present
- **Notes:** See www.ncdc.noaa.gov/doclib for further details; data are also available on a CD-ROM set
- **Online:** www.ncdc.noaa.gov/cdo-web/search

Climate Data Online: Search Tool

Start your search here to find past weather and climate data using the form below. Search within a date range and select specific type of search. All fields are required.

Select Weather Observation Type/Dataset [?]
 Precipitation Hourly

Select Date Range [?]
 2012-01-01 to 2012-08-01

Search For [?]
 Stations by Location Name, Abbreviation, ZIP or ID

SEARCH

Search Guide

Select Type/Dataset
 Records of observations including details such as precipitation, wind, snowfall, and radar data. Read more about the datasets and view data samples.

Select Date Range
 Defaults to the latest available year for your selected dataset or product but can be set to any date range within the available period of record.

Search For
 Station(s): Enter name, WBAN, GHCND, FAA, ICAO, NWSLI or COOP identifiers.
 Location(s): Enter name of city, county, state, country or other geographic location. ZIP codes and FIPS identifiers are also valid.

www.ncdc.noaa.gov/cdo-web/search

DATASET: 15-Minute Precipitation Data for NWS and Cooperative U.S. Stations—DSI3260

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes automated and manual QC
- **Data Origin:** Various sources including ASOS and punched tape from stations
- **Content and Elements:** Precipitation amounts for 15-minute increments; about 2,400 stations currently active

- **Period of Record: Generally** 1971 to present
- **Notes:** See www.ncdc.noaa.gov/doclib for further details
- **Online:** www.ncdc.noaa.gov/cdo-web/search

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Climate Data Online: Search Tool

Start your search here to find past weather and climate data using the form below. Search within a date range and select specific type of search. All fields are required.

Select Weather Observation Type/Dataset [?]
Precipitation 15 Minute

Select Date Range [?]
2012-01-01 to 2012-08-01

Search For [?]
Stations by Location Name, Abbreviation, ZIP or ID

SEARCH

Search Guide

Select Type/Dataset
Records of observations including details such as precipitation, wind, snowfall, and radar data. Read more about the datasets and view data samples.

Select Date Range
Defaults to the latest available year for your selected dataset or product but can be set to any date range within the available period of record.

Search For
Station(s): Enter name, WBAN, GHCND, FAA, ICAO, NWSLI or COOP identifiers.
Location(s): Enter name of city, county, state, country or other geographic location. ZIP codes and FIPS identifiers are also valid.

Help

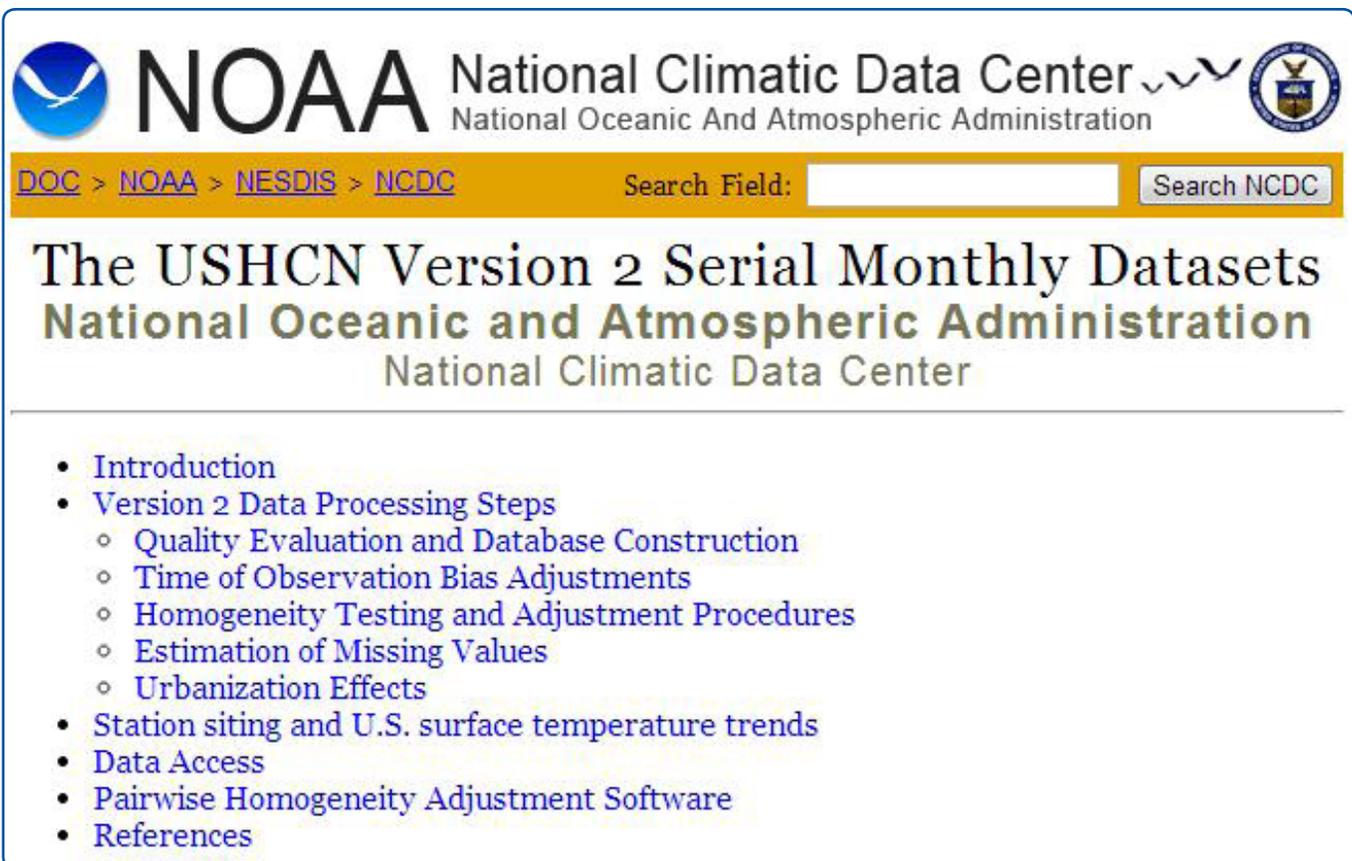
Links to help, documentation and assistance with accessing and using web services.

[Climate Data Online help](#)
[Climate Data Online Web Services](#)
[NCDC Web Services](#)

www.ncdc.noaa.gov/cdo-web/search

DATASET: U.S. Historical Climatology Network (USHCN)

- **Data Type:** ASCII character data
- **Quality Control:** Monthly mean maximum, minimum, and average temperature and total precipitation are quality controlled; temperature data are bias corrected to remove non-climatic artifacts associated with station moves and changes in observer practices, instrumentation, and environment that occur through time
- **Data Origin:** NOAA Cooperative Observer Program (COOP) network data
- **Content and Elements:** USHCN stations comprise a subset of the NOAA COOP network that have been selected based on spatial coverage, record length, data completeness, and historical stability; as of October 2012, USHCN Version 2.5 replaced version 2.0, incorporating modifications to the underlying database as well as coding changes to the pairwise homogenization algorithm that improve its overall efficiency
- **Period of Record:** The dataset consists of 1,218 stations with periods of record generally 1895 to present
- **Online:** www.ncdc.noaa.gov/oa/climate/research/ushcn



The screenshot shows the NOAA National Climatic Data Center website. At the top, there is the NOAA logo and the text "NOAA National Climatic Data Center" and "National Oceanic And Atmospheric Administration". Below this is a navigation bar with links for "DOC", "NOAA", "NESDIS", and "NCDC", and a search field with the text "Search Field:" and a "Search NCDC" button. The main heading reads "The USHCN Version 2 Serial Monthly Datasets" followed by "National Oceanic and Atmospheric Administration" and "National Climatic Data Center". A list of links is provided below the heading:

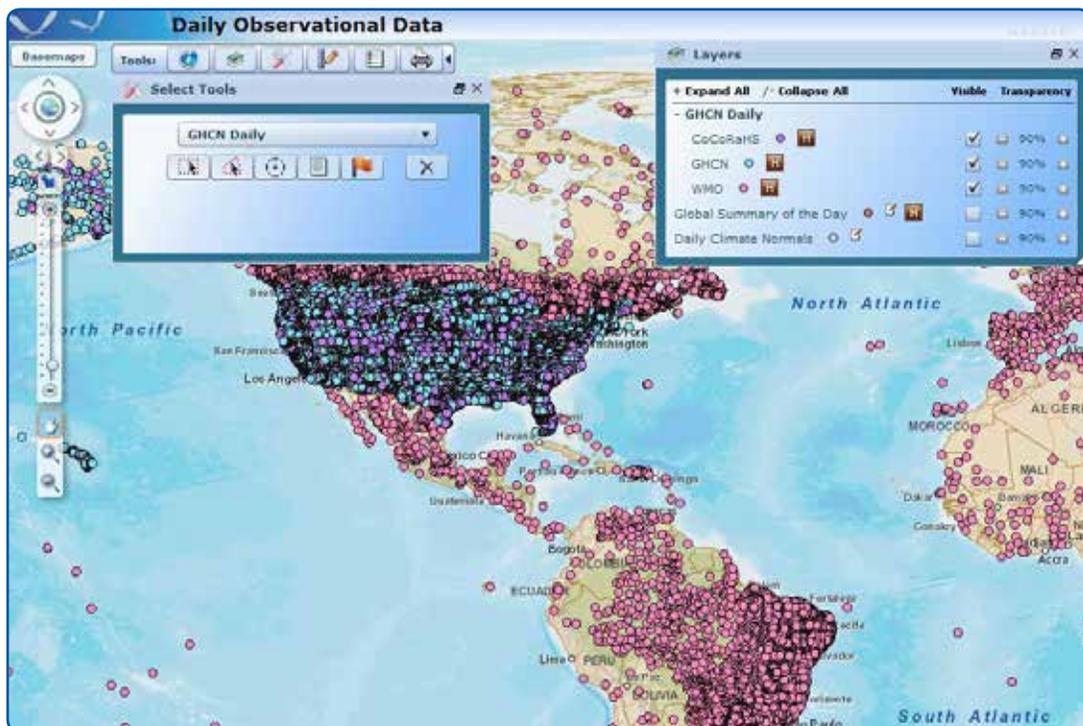
- [Introduction](#)
- [Version 2 Data Processing Steps](#)
 - [Quality Evaluation and Database Construction](#)
 - [Time of Observation Bias Adjustments](#)
 - [Homogeneity Testing and Adjustment Procedures](#)
 - [Estimation of Missing Values](#)
 - [Urbanization Effects](#)
- [Station siting and U.S. surface temperature trends](#)
- [Data Access](#)
- [Pairwise Homogeneity Adjustment Software](#)
- [References](#)

www.ncdc.noaa.gov/oa/climate/research/ushcn

DATASET: Global Historical Climate Network–Daily (GHCN-Daily)—Summary of the Day Data from U.S. NWS; U.S. Community Collaborative Rain, Hail, and Snow Network; U.S. and Foreign Department of Defense; and Global Sites

- **Data Type:** ASCII character data
- **Quality Control:** All datasets undergo automated QC
- **Data Origin:** Various sources including ASOS, directly from stations, and key entry
- **Content and Elements:** Includes maximum and minimum temperatures, precipitation, snowfall, and snow depth; some U.S. stations have additional data, such as evaporation and soil temperature; element content varies greatly by station; approximately 28,000 stations are regularly updated; over 90,000 stations have available historical data
- **Period of Record:** Generally, 1890s to present, with the earliest observations beginning in the 1830s
- **Notes:** See www.ncdc.noaa.gov/doclib for further details
- **Online:** www.ncdc.noaa.gov/oa/climate/ghcn-daily/index.php

www.ncdc.noaa.gov/oa/climate/ghcn-daily/index.php



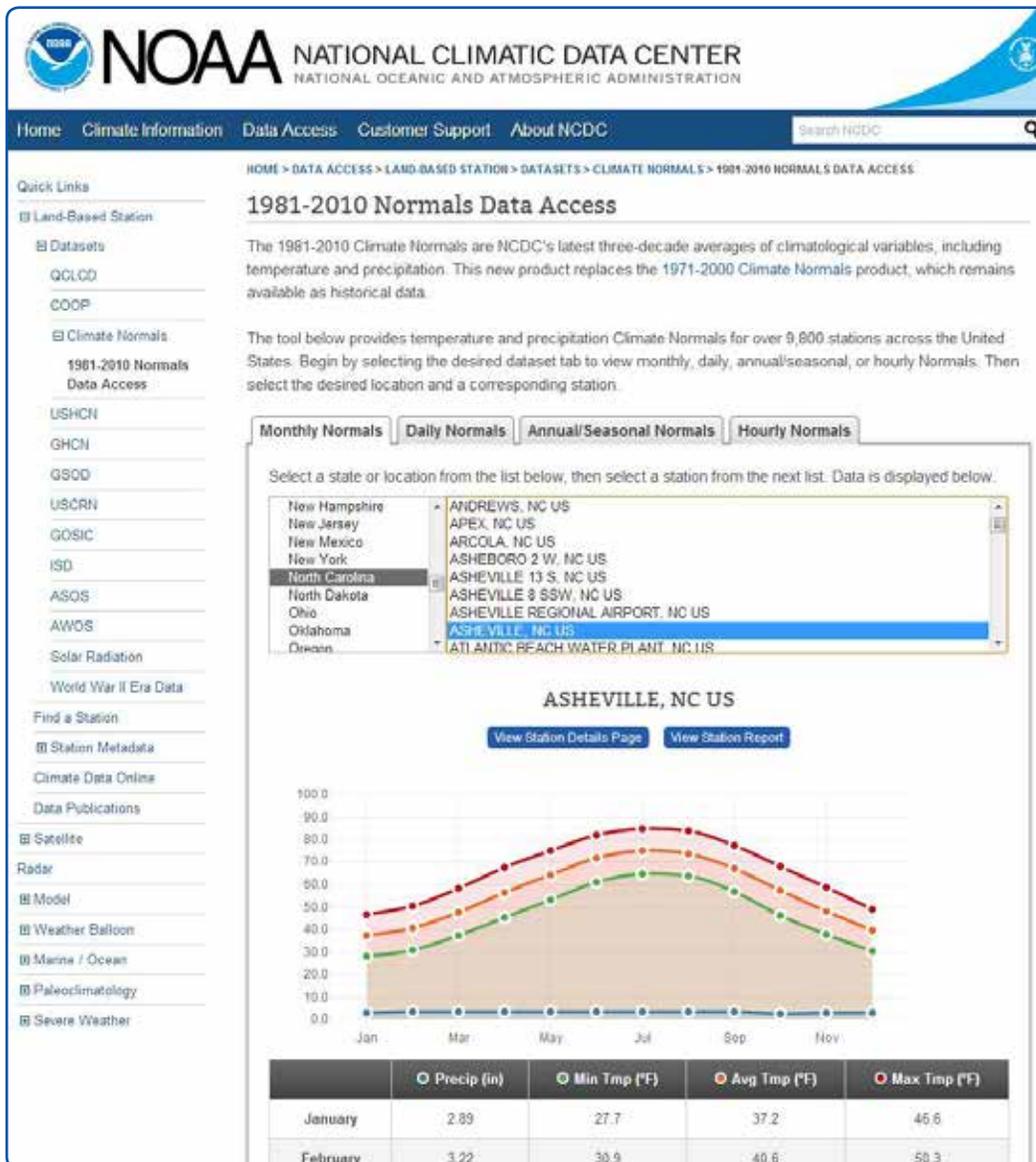
www.ncdc.noaa.gov/cdo-web/datasets (Select "Daily Summaries" and "Mapping Tool")

DATASET: NOAA’s 1981–2010 U.S. Climate Normals

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes a large array of automated QC
- **Data Origin:** Various sources; primarily the GHCN-Daily dataset, but also Standardized Monthly Temperature Data, and Integrated Surface Database Lite
- **Content and Elements:** The 1981–2010 U.S. Climate Normals dataset provides average climate conditions for over 9,800 stations and replaces the 1971–2000 U.S. Climate Normals product; for example, the average high temperature in New York City’s Central Park on July 4 is 83.5°F; this product contains temperature Normals for 7,500 stations and precipitation Normals

for 9,300 stations at the daily, monthly, seasonal, and annual timescales; additionally, 6,400 stations have snowfall Normals, and 5,300 stations have snow depth Normals; hourly Normals for temperature, wind, pressure, cloud cover, and more are available for 262 stations

- **Period of Record:** 1981 to 2010
- **Notes:** See www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt for further details regarding available files for the 1981–2010 U.S. Climate Normals
- **Online:** www.ncdc.noaa.gov/land-based-station-data/climate-normals/1981-2010-normals-data



www.ncdc.noaa.gov/land-based-station-data/climate-normals/1981-2010-normals-data

DATASET: Summary of Month Data for U.S. and Global Sites—Global Historical Climate Network—Monthly (GHCN-Monthly)

- **Data Type:** ASCII character data
- **Quality Control:** All datasets undergo automated QC
- **Data Origin:** Various international sources; updated monthly primarily from CLIMAT messages
- **Content and Elements:** Includes monthly mean temperatures, monthly maximum and minimum temperatures, and monthly total precipitation; element content varies greatly by station; approximately 20,000 stations with precipitation data and 7,280 stations with monthly mean temperatures

- **Period of Record:** Generally, late 1800s to present, with the earliest observations beginning in the 1700s
- **Online:** www.ncdc.noaa.gov/ghcnm
Version 2 Precipitation Data Files at [ftp.ncdc.noaa.gov/pub/data/ghcn/v2](ftp://ftp.ncdc.noaa.gov/pub/data/ghcn/v2)
Version 3 Temperature Data Files at [ftp.ncdc.noaa.gov/pub/data/ghcn/v3](ftp://ftp.ncdc.noaa.gov/pub/data/ghcn/v3)

Disclaimer: As of August 2013, the version of GHCN-Monthly for temperature variables is v.3.2.2; for precipitation variables, the version is v.2.0; the latest information about GHCN-Monthly version availability is accessible from the GHCN-Monthly website: www.ncdc.noaa.gov/ghcnm

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Home > Climate Monitoring > GHCN Monthly October US Release: 12 Nov 2013, 11:00 AM EST

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- Temp, Precip, and Drought
- Climate at a Glance
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- Societal Impacts
- Snow and Ice
- Teleconnections
- GHCN Monthly**
- Monitoring References

GHCN Monthly

Effective September 2012, the GHCN-M version 3.2.0 dataset of monthly mean temperature replaced the GHCN-M version 3.1.0 monthly mean temperature dataset. Beginning with the August 2012 Global monthly State of the Climate Report, released on September 17, 2012, GHCN-M version 3.2.0 is used for NCDC climate monitoring activities, including calculation of global land surface temperature anomalies and trends. For more information about this newest version, please see the [GHCN-M version 3.2.0 Technical Report](#).

*The GHCN-M version 3.1.0 Technical Report was revised on September 5, 2012 to accurately reflect the changes incorporated in that version. Previously that report incorrectly included discussion of changes to the Pairwise Homogeneity Algorithm (PHA). Changes to the PHA are included in version 3.2.0 and described in the version 3.2.0 Technical Report. Please see the [Frequently Asked Questions](#) to learn more about this update.

- [Version 3](#)
- [Version 2](#)

Contact

For questions specific to GHCNM, please email NCDC.GHCNM@noaa.gov.

www.ncdc.noaa.gov/ghcnm

DATASET: National Solar Radiation Database 1991–2010 for the United States, Guam, and Puerto Rico—DSI3284

- **Data Origin:** National Renewable Energy Laboratory
- **Content/ Elements:** The 1991–2010 National Solar Radiation Database (NSRDB) contains hourly solar radiation, including global, direct, and diffuse, data as well as meteorological data for over 1,500 stations provided from NCDC’s ISD; this update builds on the 1961–1990 and 1991–2005 NSRDB, which contains data for 239 and 1,454 stations, respectively; this includes the conventional time series for NSRDB ground stations as well as a one-tenth-degree gridded dataset

that contains hourly solar records for 12 years (1998–2009) for the United States (except Alaska) above 60° latitude for about 100,000 pixel locations at a nominal 10-km-by-10-km pixel size

- **Period of Record:** 1991 to 2010
- **Notes:** See ftp.ncdc.noaa.gov/pub/data/nsrdb-solar/documentation-2010/NSRDB_UserManual_r20120906.pdf for further details
- **Online:** www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/solar-radiation

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Solar Radiation

The success of any solar energy installation depends largely on the availability of solar radiation at that location, making detailed knowledge of solar resource data critical for planning and siting. In the effort to make such data easily accessible, NCDC, the Department of Energy’s National Renewable Energy Laboratory (NREL), the National Aeronautics and Space Administration, the Northeast Regional Climate Center, and several universities and companies collaborated to create the National Solar Radiation Database (NSRDB). Since 1992, the NSRDB has provided solar planners and designers, building architects and engineers, renewable energy analysts, and countless others with extensive solar radiation information.

- [National Solar Radiation Database](#)
In 2012, the team, led by NREL, updated the National Solar Radiation Database (NSRDB) to its latest version containing data from 1991 through 2010. The 1991–2010 database builds on the previous 1991–2005 NSRDB and contains data for over 1,500 stations across the United States. The NSRDB offers hourly solar radiation data including global, direct, and diffuse radiation data as well as meteorological data for those stations provided from NCDC’s Integrated Surface Database.
- [FTP: National Solar Radiation Data Base Files \(3284\)](#)
Data from the NSRDB are available for download via FTP. The FTP site allows users to download large quantities of solar radiation data, station data, or summary statistics.

Solar radiation, or the electromagnetic energy emitted by the sun, can be captured and converted into useful forms of energy such as heat and electricity.

www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/solar-radiation

DATASET: ASOS One-Minute and Five-Minute Data—DS16401-6406

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes automated QC
- **Data Origin:** Data originate from ASOS ingest process
- **Content and Elements:** Includes most surface elements observed in the United States, such as wind speed and direction, temperature, dew point, cloud data, sea level pressure, altimeter setting, station

pressure, present weather, visibility, and precipitation amount; about 900 stations currently active

- **Period of Record:** Generally, 1998 to present; 2000 to present online
- **Notes:** www.ncdc.noaa.gov/doclib
- **Online:** www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/automated-surface-observing-system-asos



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Automated Surface Observing System (ASOS)

Automated Surface Observing System (ASOS) units are automated sensor suites that are designed to serve meteorological and aviation observing needs. There are currently more than 900 ASOS sites in the United States. These systems generally report at hourly intervals, but also report special observations if weather conditions change rapidly and cross aviation operation thresholds.

ASOS serves as a primary climatological observing network in the United States. Not every ASOS is located at an airport; for example, one of these units is located at Central Park in New York City. ASOS data are archived in the Global Surface Hourly database, with data from as early as 1901.

- [1-Minute ASOS Data](#)
These data are only available for ASOS stations.
- [5-Minute ASOS Data](#)
These data are only available for ASOS stations.
- [User Interface Page](#)
After agreeing to the regulations regarding data usage, you will be directed to select a Simplified or Advanced Option to obtain the data. Not recommended for large volumes of data.
- [Direct FTP Access](#)
Data by year; highly recommended for large volumes of data.

www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/automated-surface-observing-system-asos

DATASET: Service Records Retention System (SRRS) Data

- **Data Type:** ASCII character and binary data
- **Quality Control:** No QC performed
- **Data Origin:** Data originate from ingest of NWS products
- **Content and Elements:** Includes 1) all surface, upper-air, forecast, warning, and other text bulletins received

via SRRS processes; 2) many NWS/NCEP model-generated charts and analyses; and 3) the National Digital Forecast Database

- **Period of Record:** Late 2000 to present
- **Notes:** These are the “raw” data as received from NCEP and NWS
- **Online:** nomads.ncdc.noaa.gov/ncep/NCEP



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National Climatic Data Center
U.S. Department of Commerce



SRRS Analysis and Forecast Charts

Chart Type Selection

The Service Records Retention System (SRRS) is an archive and access system for selected National Weather Service (NWS) operational products maintained at the National Climatic Data Center.

NOTE: This system provides National Weather Service charts that are archived at the National Climatic Data Center. Additional charts from earlier years are available for offline ordering by contacting the [NCDC Customer Support staff](#).



[Define chart terms](#) (opens in new window)

nomads.ncdc.noaa.gov/ncep/NCEP

DATASET: Worldwide Upper-Air Observations—Integrated Global Radiosonde Archive (IGRA)

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes some automated QC
- **Data Origin:** Various sources including digital data from the stations (U.S. plus some from Mexico), key-entered data, digital data from source countries, and GTS
- **Content and Elements:** Replaced Comprehensive Aerological Reference Dataset—DS 6305; includes all

elements observed in upper air soundings—generally temperature, dew point depression, atmospheric pressure, wind direction, and speed; about 1,500 globally distributed stations; 900 of the stations are currently active

- **Period of Record:** Generally, 1938 to present
- **Notes:** See www.ncdc.noaa.gov/oa/climate/igra/index.php for further details
- **Online:** www.ncdc.noaa.gov/oa/climate/igra/index.php



NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)



National Climatic Data Center
U.S. Department of Commerce

Integrated Global Radiosonde Archive

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Data Coverage

Methods
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Introduction

The Integrated Global Radiosonde Archive (IGRA) consists of radiosonde and pilot balloon observations at over 1500 globally distributed stations (Figure 1). Observations are available for standard, surface, tropopause and significant levels. Variables include:

- Pressure
- Temperature
- Geopotential Height
- Dewpoint Depression
- Wind Direction
- Wind Speed

The period of record varies from station to station, with many extending from 1970 to present (Figure 2). Station records are updated daily and are available online at no charge.



Photo courtesy of National Weather Service

DOC > NOAA > NESDIS > NCDC
Enter Search Term(s):
Search NCDC

DATASET: Historical Observing Metadata Repository (HOMR)

HOMR is NCDC’s integrated station history database that provides land-based station metadata in support of NCDC research, reporting, publications, data products, and web applications.

- **Content and Elements:** Includes current and historical station metadata for various land-based networks when available; details include station identifiers, names, location, elements, and equipment

- **Master Station History Report:** Digital listing of basic, historical identifier and location information for every station in the station history database
- **Publication History Report:** Digital compilation of elements observed and/or reported for all published stations in the NWS COOP network
- **Online:** www.ncdc.noaa.gov/homr
- **Station History Visualization:** Provides a graphical overview of station-level metadata attributes and their changes over time

Historical Observing Metadata Repository (HOMR)

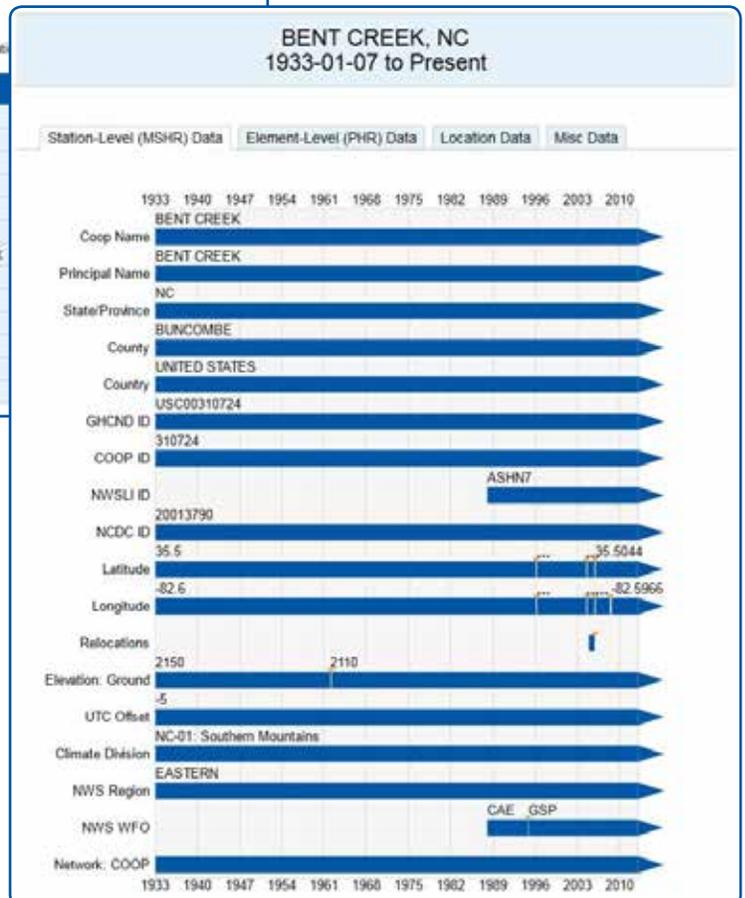
HOMR is NCDC's integrated station history database that provides in situ metadata in support of NCDC research, reporting, data products and web applications.

Station History Search

Id	Location	Name	Network
COOP	Is	Any ID	Any Location

Current Holdings

Type	Description
NWS COOP	NWS Cooperative Network
GHCN-D	Global Historical Climatology Network - Daily
ASOS	Automated Surface Observing System
LCD	Local Climatological Data (First Order)
USCRN	U.S. Climate Reference Network
USRCRN	U.S. Regional Climate Reference Network
AL USRCRN	Alabama U.S. Regional Climate Reference Network
USHCN	U.S. Historical Climatological Network
NEXRAD	NEXRAD Radar
AWOS	Automated Weather Observing System
Upper Air	IGRA
International	Other International not included above
Other	Various Military, Weather Service, Airways, etc.



Specialized *In Situ* Products

General Information

These specialized products can be provided on CD, DVD, or paper copy unless otherwise indicated. Please call 828-271-4800 or email ncdc.orders@noaa.gov for further details. There are charges involved for these services.

Wind Rose Summary: This provides a statistical summary of wind speed versus wind direction for any station, U.S. or foreign, reporting adequate observational data. Data are tabulated in incremental "bins," such as 0–3 miles per hour and 4–7 miles per hour, and can be run for periods of record through 2009.

Mixing Height Summary: This summary provides a day-by-day estimate of the mixing height for the boundary layer by using surface and upper air observational data.

It is often used for pollution and air dispersion models. This product is provided for U.S. sites only and can be run for periods of record through 2009.

Stability Array: This provides month-by-month averages of surface-based stability in Pasquill stability categories. Hourly or synoptic surface observations are used as input and can be run for periods of record through 2009.



Online and Operational Services

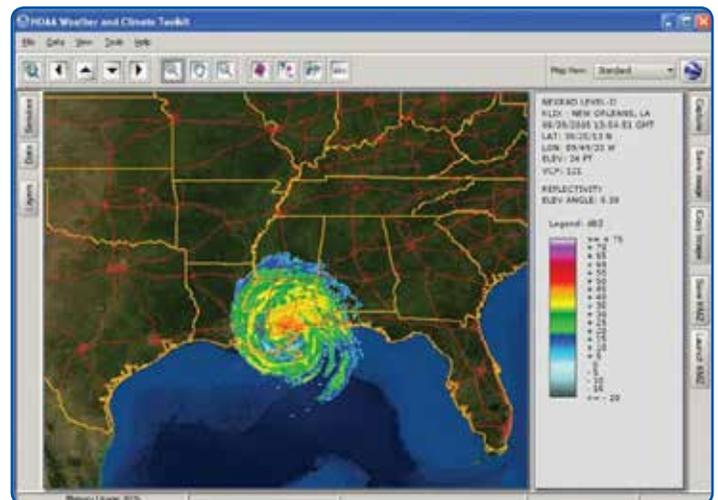
NEXRAD Products

NCDC archives and disseminates data from the Next Generation Weather Radar (NEXRAD) system. Comprised of 160 Weather Surveillance Radar and 1,988 Doppler (WSR-88D) sites throughout the United States and select overseas locations, NEXRAD is a joint effort of the United States Departments of Commerce, Defense (DOD), and Transportation. The controlling agencies are the National Weather Service (NWS), Air Force Weather Agency and Federal Aviation Administration, respectively. Level-II data include the six meteorological base data quantities: reflectivity, mean radial velocity, spectrum width, differential reflectivity, correlation coefficient, and differential phase. From these quantities, computer processing generates numerous meteorological analysis products known as Level-III data. Level-II data are recorded at all NWS and several select lower 48 DOD WSR-88D sites. Level-III data are recorded at 156 of the 160 sites.

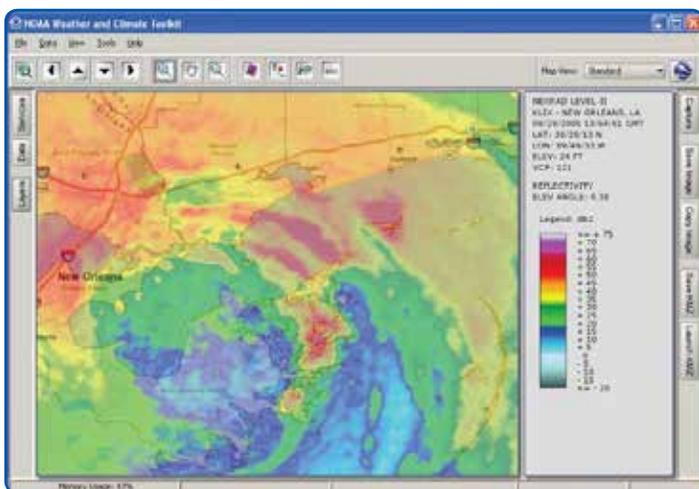
The modification to implement dual polarization capability was completed in 2013. This new technology allows the WSR-88D to simultaneously transmit and receive in the horizontal and vertical planes, providing an additional dimension of weather features and giving the weather forecaster additional and improved tools to serve the public.

www.roc.noaa.gov/WSR88D/PublicDocs/DualPol/DPstatus.pdf

www.roc.noaa.gov/WSR88D/PublicDocs/DualPol/DPSchedule.pdf



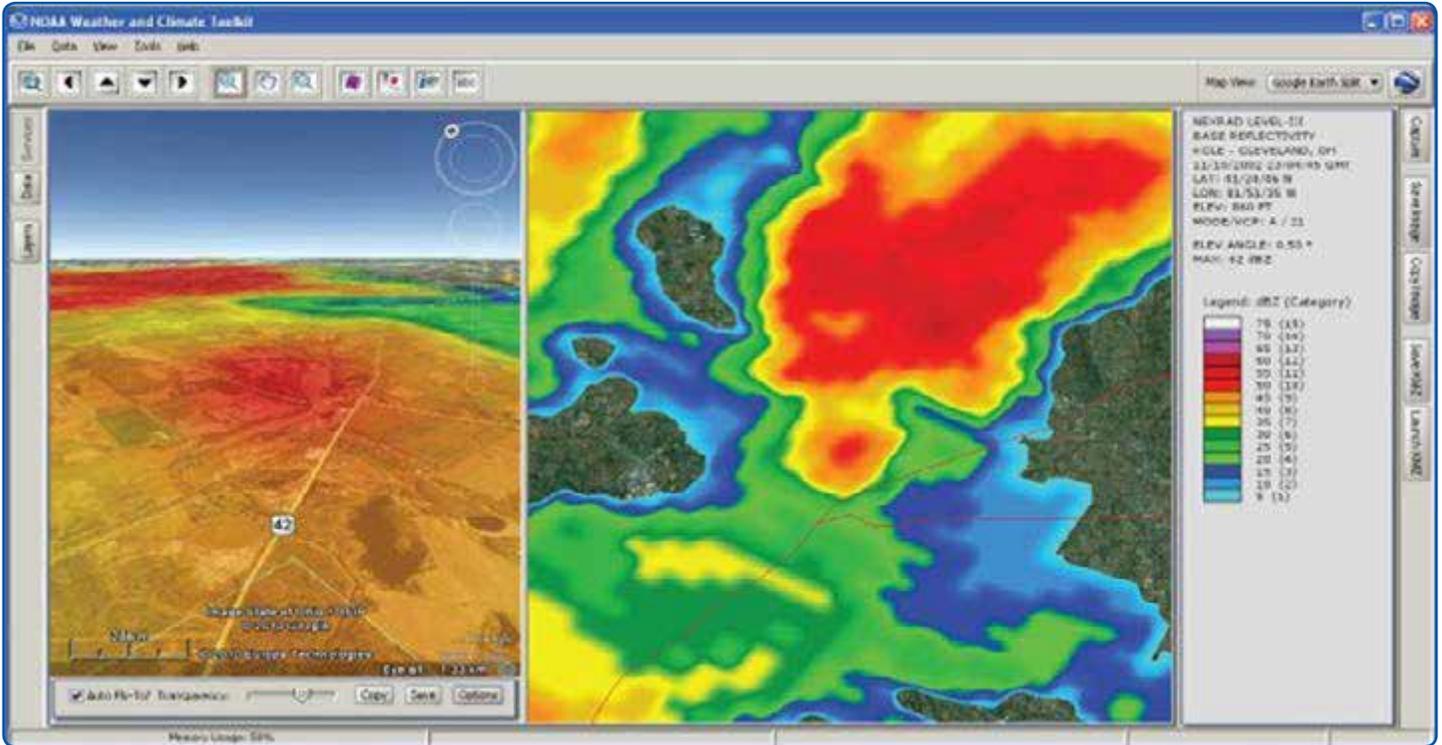
NEXRAD Level-II Base Reflectivity with ESRI Imagery



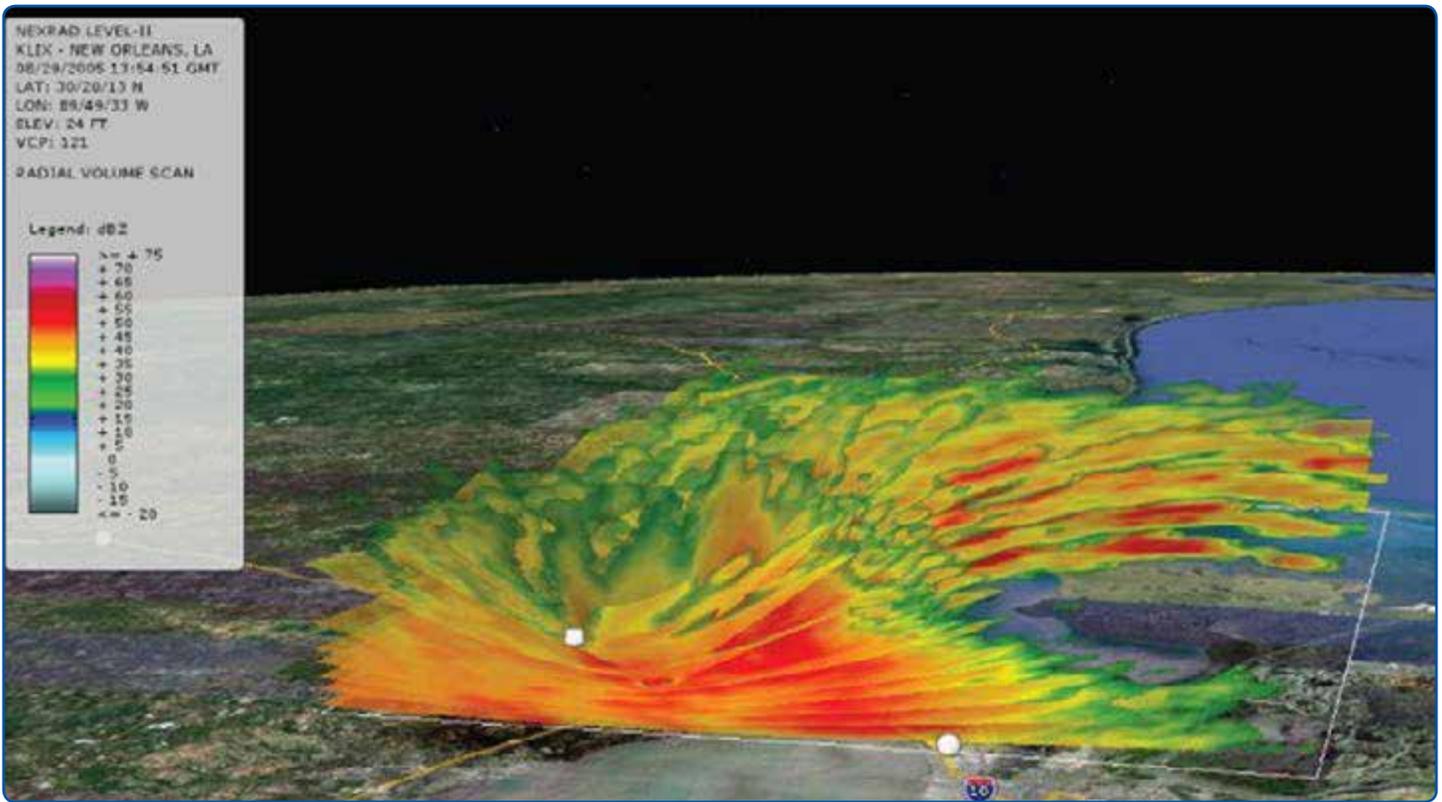
NEXRAD Level-II Base Reflectivity with ESRI Imagery

A list of all NEXRAD Level-III products, including the new dual polarization products, can be found at the following site: www.ncdc.noaa.gov/data-access/radar-data

NCDC provides a radar viewer and data export toolkit called NOAA’s Weather and Climate Toolkit. It is free software that visualizes WSR-88D Level-II and Level-III NEXRAD data from NCDC’s archives on Windows, Mac, and Linux platforms.



Level-III Base Reflectivity with Internal Google Earth Plug-in



Hurricane Katrina: 3-D Volume Scan KMZ Output Rendered in Google Earth

NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
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NCDC Radar Resources

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Welcome to the NCDC Radar Page

Please hover your mouse over the links to the upper left, or simply scroll down the page to select and view more content from this area of the NCDC website. This is the first in a series of steps we're taking to improve our site. Should you have something specific to look for, submit a search in the golden search bar above.

Latest News

[Weather and Climate Toolkit](#)

[Level-II Format Change - Technical Information Notice](#)

[Level-II Format Change - Notification](#)

[Dual-Polarization Sample Data!](#)

[Korean Data Available](#)

NCDC Radar Resources Web Page www.ncdc.noaa.gov/data-access/radar-data

The following three sites provide access to NEXRAD Level-II and Level-III data.

1. The NCDC Climate Data Online system (www.ncdc.noaa.gov/cdo-web) is designed for general, flexible access to NEXRAD data using a cart-based system. Multiple sites and days may be ordered at one time and multiple location-based searches can be used to find applicable NEXRAD sites.
2. The NEXRAD Inventory Ordering System (www.ncdc.noaa.gov/nexradinv) is designed for interrogating the inventory of NEXRAD products and ordering data for a specific day and site using a simple interface.
3. The Hierarchical Data Storage System Access System (has.ncdc.noaa.gov) is designed for bulk orders and allows one year of data to be ordered at a time.

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NCDC NEXRAD Data Inventory Search

National Doppler Radar Sites

Select radar location and click.

Alaska

Hawaii

Guam

South Korea

Puerto Rico

Raders by State

Can't find the site you're looking for?
Try this list of ALL sites in the NCDC Archive (includes inactive sites)
<http://www.ncdc.noaa.gov/nexradinv/choosesite.jsp>

www.ncdc.noaa.gov/nexradinv

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HDSS Access System

Radar [1]	NEXRAD Level II	access info inv docs	06/05/1991 - 12/08/2008
	NEXRAD Level III	access info inv docs	05/07/1992 - 12/07/2008

has.ncdc.noaa.gov



Online and Operational Services

The Weather and Climate Toolkit

The Weather and Climate Toolkit can generate simple visualization and data export of weather and climatological data archived at NCDC. The Toolkit also provides access to weather and climate web services from NCDC and other organizations as well as community standard data formats. The Viewer offers tools for displaying custom data overlays, Web Map Services, animations and basic filters. The export of images and movies is provided in multiple formats. The Data Exporter allows for data export in both vector point, line, and polygon and raster grid formats. Additional visualization capabilities include constant altitude slices of radial volume scans and isosurface export to Google Earth.

Recent updates added support for:

- Next Generation Weather Radar (NEXRAD) Dual-Polarization (Level-II moments and Level-III products)

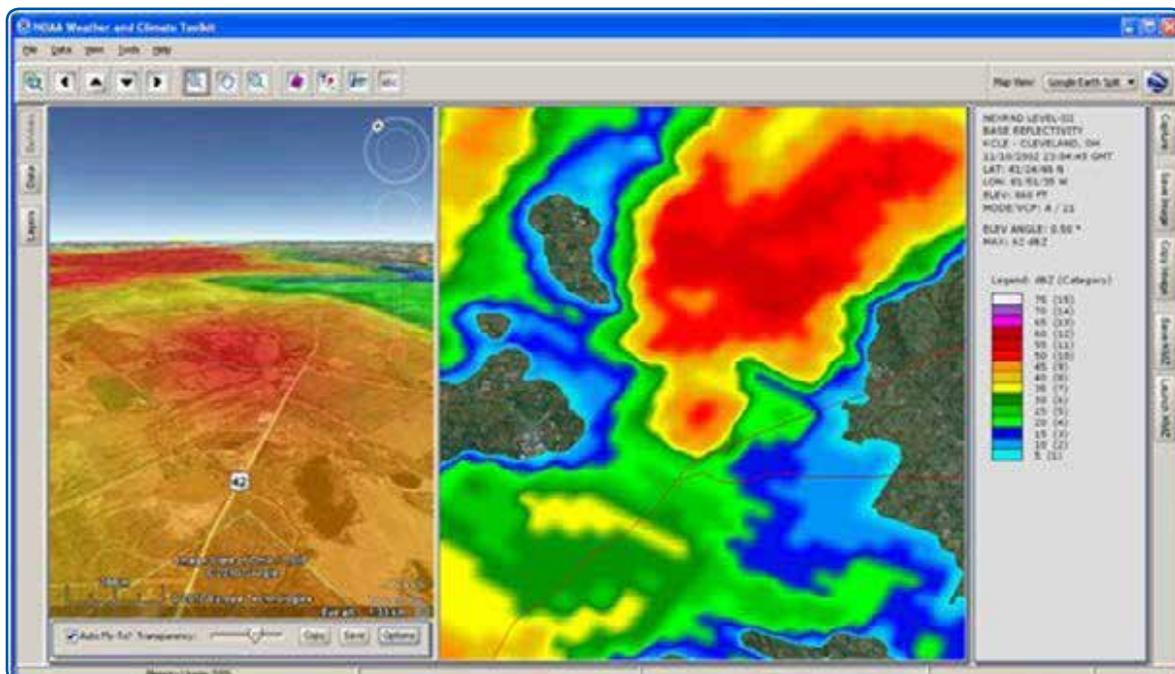
- Isosurface export to Google Earth (KMZ format)
- Constant Altitude Plan Position Indicator, a constant altitude cross-section of radar data

Current data types supported:

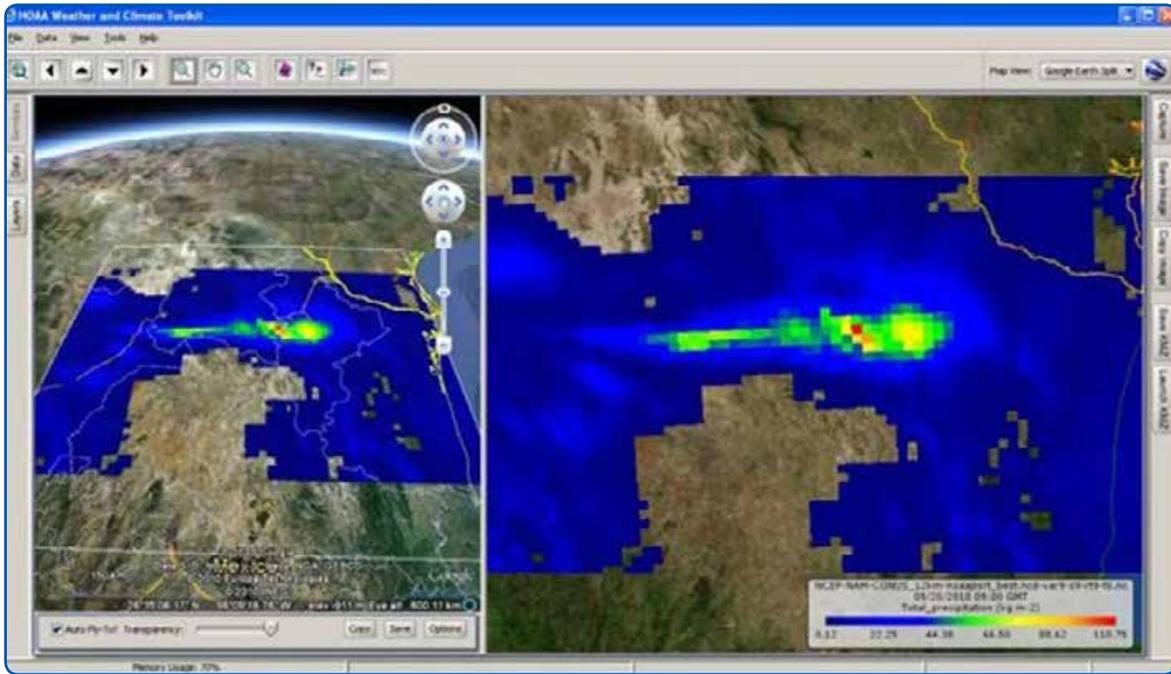
- NEXRAD Level-II and Level-III
- Geostationary Operational Environmental Satellite Program satellite AREA files
- Gridded NetCDF, OPeNDAP, and HDF following Climate-Forecast conventions
- NetCDF Markup Language
- GRIB, GINI, and Gempak formats

Current data services:

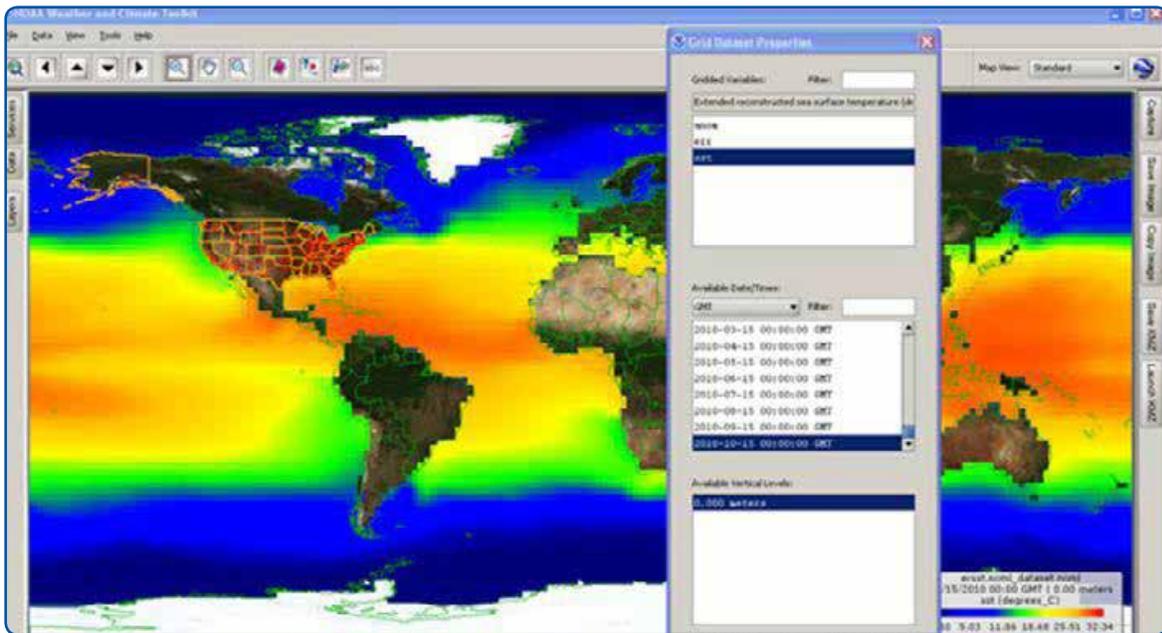
- U.S. Drought Monitor service from the National Drought Mitigation Center



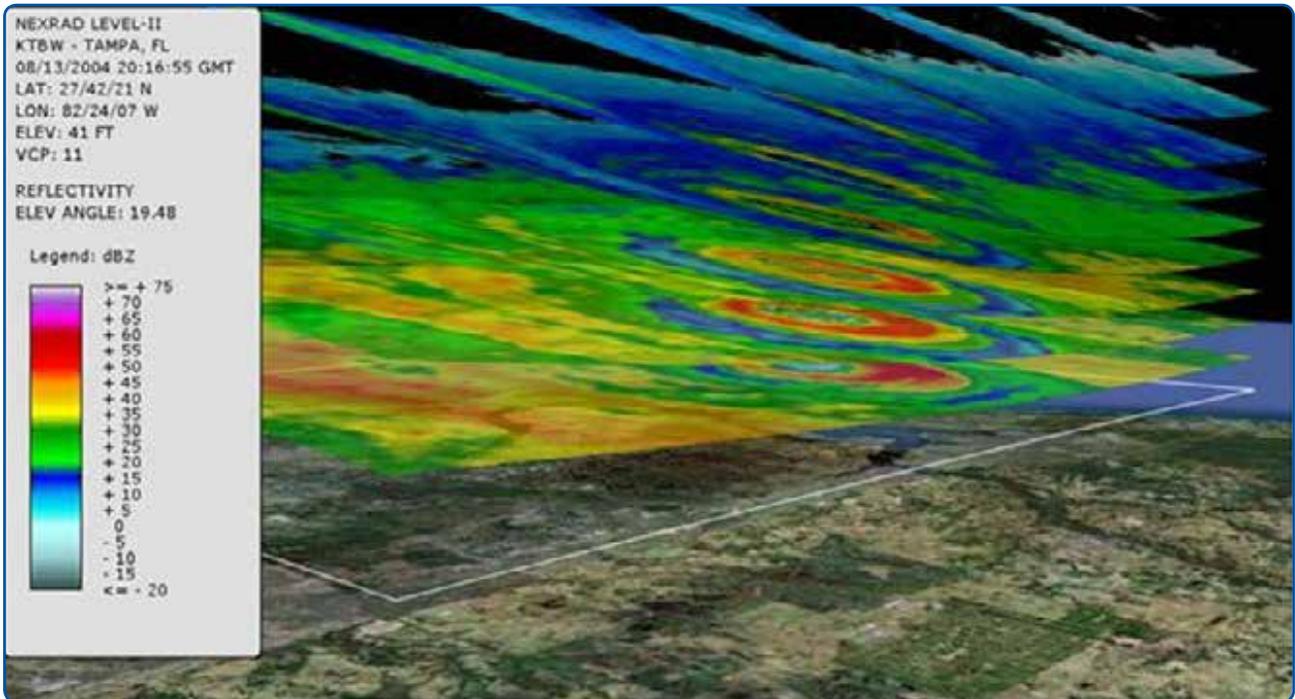
Level-III Base Reflectivity with Google Earth Plug-In



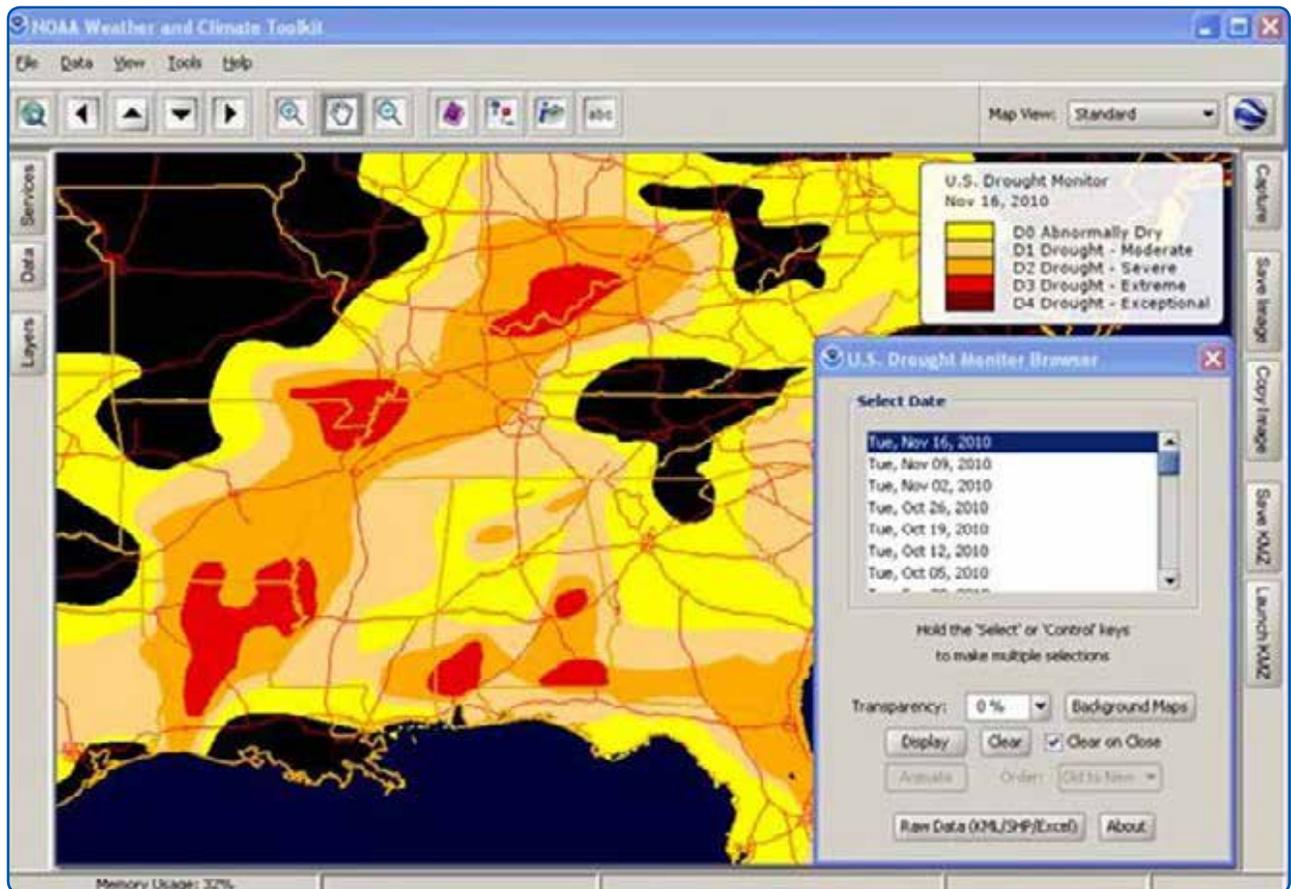
National Centers for Environmental Prediction North American Model Spatial Subset with Google Earth Plug-In



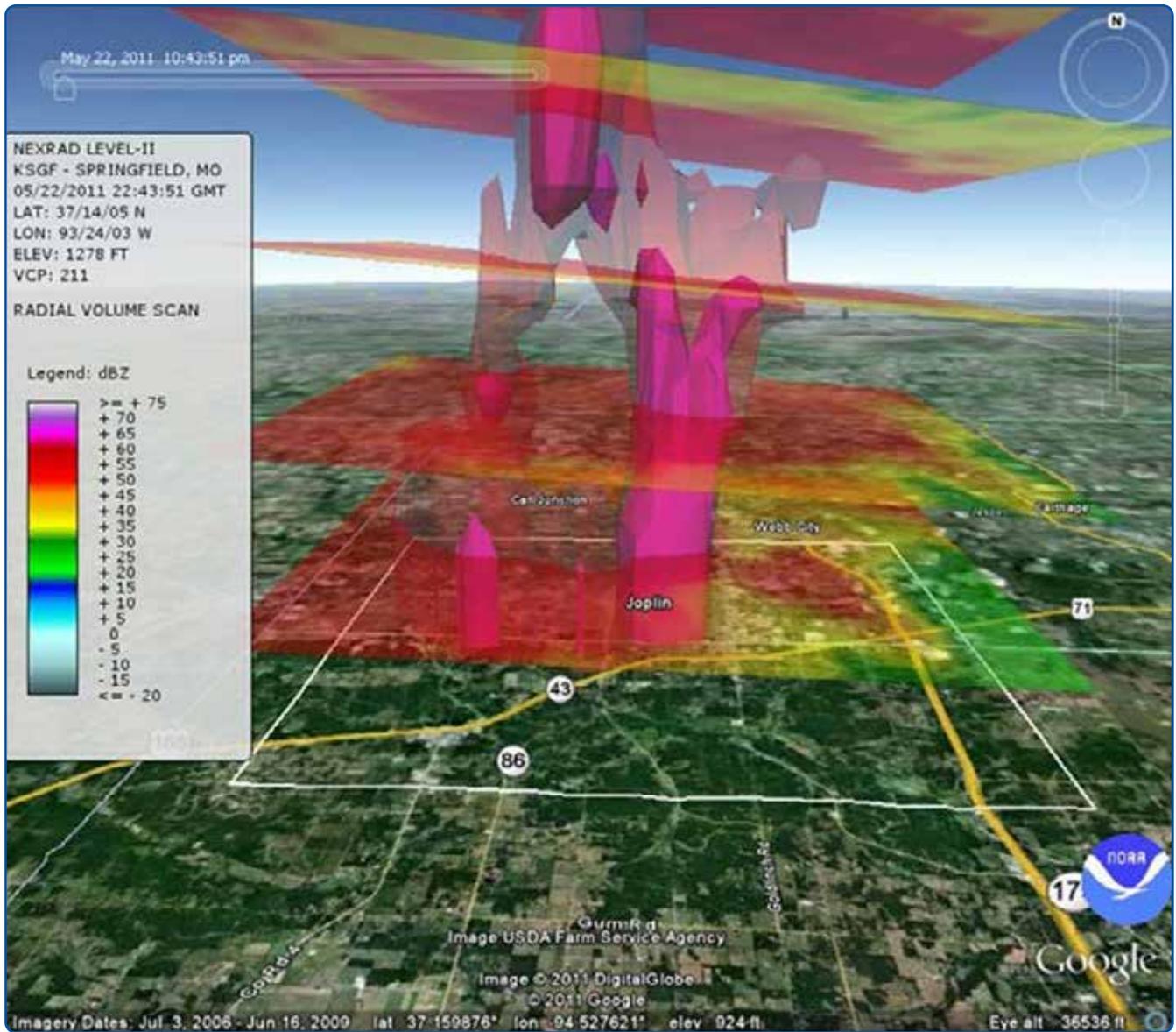
Sea Surface Temperature from Remote OPeNDAP Dataset



Hurricane Charley: 3-D Volume Scan KMZ Output Rendered in Google Earth



U.S. Drought Monitor Web Map Service



Isosurface Visualization in Google Earth of May 22, 2011, Joplin, Missouri, Tornado



Online and Operational Services

Satellite Data, Products, and Services

NOAA manages a constellation of geostationary and polar-orbiting meteorological satellites. These satellites are distributed among three operational programs: the Suomi National Polar-orbiting Partnership (Suomi NPP), the Geostationary Operational Environmental Satellite Program (GOES), and the Polar Operational Environmental Satellite Program (POES).

The U.S. Department of Defense operates the satellites of the Defense Meteorological Satellite Program (DMSP) and NCDC archives and distributes the data under the Shared Processing Program. We also distribute data and products from the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) Metop satellites.



NOAA

NATIONAL CLIMATIC DATA CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



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HOME > DATA ACCESS > SATELLITE DATA

Satellite Data

The National Oceanic and Atmospheric Administration (NOAA) manages a constellation of geostationary and polar-orbiting meteorological spacecrafts. These satellites are distributed among three operational programs: the Suomi National Polar-orbiting Partnership (S-NPP), the Geostationary Operational Environmental Satellite Program (GOES), and the Polar Operational Environmental Satellite Program (POES). The U.S. Department of Defense operates the satellites of the Defense Meteorological Satellite Program (DMSP) and NCDC archives and distributes the data under the Shared Processing Program.

Geostationary and polar-orbiting satellites provide raw radiance data that are collected by ground stations and archived by NCDC. These continuous global environmental observations are then derived to produce various geophysical variables that help to describe the Earth's atmospheric, oceanic, and terrestrial domains.

Geostationary satellites help monitor and predict weather and environmental events including tropical systems, tornadoes, flash floods, dust storms, volcanic eruptions, and forest fires. Polar-orbiting satellites collect data for weather, climate, and environmental monitoring applications including precipitation, sea surface temperatures, atmospheric temperature and humidity, sea ice extent, forest fires, volcanic eruptions, global vegetation analysis, as well as search and rescue. NOAA's satellite data improve the Nation's resilience to climate variability, maintain our economic vitality, and improve the security and well-being of the public.

- [Satellite Data Access by Dataset](#)
NCDC archives numerous datasets such as sea surface temperature and cloud data



Suomi National Polar-orbiting Partnership satellite (S-NPP) orbiting above the Earth (artist's rendition).

www.ncdc.noaa.gov/data-access/satellite-data

Overview of Most Popular Satellite Products from NCDC

Satellite Data Access by Datasets—Atmospheric Data

Dataset	Description	Spatial Information	Temporal Information	Access
CDR HIRS OLR	The High-Resolution Infrared Radiation Sounder (HIRS) Outgoing Longwave Radiation (OLR) Climate Data Record (CDR) is a continuous time series of the outgoing longwave radiation at the top of the atmosphere. The HIRS OLR is derived from the radiance observations from HIRS instruments onboard the POES and EUMETSAT MetOp satellites.	Global; 2.5 deg	Monthly; 1979–2010	Thematic Real-time Environmental Distributed Data Services (THREDDS)
CDR AVHRR AOT	CDR Program aerosol optical thickness (AOT) for the Advanced Very High Resolution Radiometer (AVHRR) channel 1 (0.63 micron) over the global oceans. The daily data are in equal area orbital (ascending and descending) grid, and monthly data are in equal angle grid. Both daily and monthly data are in NetCDF format.	Global oceans; varying resolution	Daily and monthly; 1981–2009	THREDDS
ISCCP Cloud Data	The International Satellite Cloud Climatology Project (ISCCP) provides global cloud information at many resolutions (32 to 280km) and time scales (three-hourly to monthly) derived from geostationary and polar orbiting satellite instruments.	Global; varying resolution	1983–2009	THREDDS Email
SSMI-SSMIS Hydrological Products	Monthly and pentad averaged Special Sensor Microwave Imager (SSM/I) and Special Sensor Microwave Imager Sounder (SSM/IS) products include precipitation, cloud liquid water, total precipitable water, snow cover, and sea ice extent. These products are useful for evaluating the mean climate state, its interannual and seasonal variations, and the detection of anomalies associated with large-scale (e.g., El Niño Southern Oscillation, Arctic Oscillation) and regional climatic variations. A time series of the entire SSM/I and SSM/IS archive includes data from July 1987 to the present.	Global; 1 and 2.5 deg.	Monthly and pentad; 1987–present	FTP

More information on [SSM/I and SSM/IS monitoring and documentation](#) is also available from NCDC.

Satellite Data Access by Datasets—Oceanic Data

The following table is not an exhaustive list of satellite-based oceanic data. Other ocean products are available through the [National Oceanic Data Center](#) and the [Comprehensive Large Array-data Stewardship System \(CLASS\)](#).

Dataset	Description	Spatial Information	Temporal Information	Access
CDR Pathfinder SST	CDR Program Pathfinder Sea Surface Temperature (SST) derived from the five-channel AVHRR sensors flown on NOAA’s polar orbiting satellites.	Global oceans; ~4km	Daily; 1981–2010	THREDDS
Daily OISST	Two new high-resolution SST analysis products have been developed using optimum interpolation (OI). The analyses have a spatial grid resolution of 0.25° and temporal resolution of one day. One product uses AVHRR infrared satellite SST data. The other uses AVHRR and Advanced Microwave Scanning Radiometer on the NASA Earth Observing System satellite SST data.	Global; 0.25 deg	Daily; 1981–present	FTP THREDDS
Blended Sea Winds	The Blended Sea Winds contain globally gridded, high-resolution ocean surface vector winds and wind stresses. The wind directions came from two sources depending on the products: for the research products, the source is the National Centers for Environmental Prediction Reanalysis 2 and for near-real-time products, the source is the European Centre for Medium-Range Weather Forecasts Numerical Weather Prediction (NWP) system. The wind directions were interpolated onto the blended speed grids.	Global oceans; 0.25 deg	Six-hourly; 1995–2005	FTP THREDDS
Validation Datasets - SURFA	The World Climate Research Programme Surface Flux Analysis (SURFA) initiative is to facilitate the evaluation of forecast skills from NWP and climate models as well as products from reanalysis and remotely sensed surface flux variables against highquality <i>in situ</i> reference data. The datasets here include output from NWP model forecasts and reanalysis as well as <i>in situ</i> station observations from January 2008 onward.	Global; 0.25 deg	2008–present	FTP THREDDS

[In situ marine data](#) from NCDC is also available.

Satellite Data Access by Datasets—Other data

Dataset	Description	Spatial Information	Temporal Information	Access
NH SCE CDR	The Northern Hemisphere Snow Cover Extent (NH SCE) CDR is produced from SCE maps that are based on various satellite data sources. The data are provided on an 89 x 89 grid with variable resolution, ranging from ~10,000 square km at the equator to ~42,000 square km at the North Pole.	Northern Hemisphere land; varying resolution	Weekly; 1966–present	THREDDS
CDR GridSat	CDR Program Gridded Satellite (GridSat) from ISCCP B1 Infrared window channel brightness temperatures. Data have been calibrated and remapped to gridded netCDF.	70°N–70°S; 8km	Three-hourly; 1981–2009	THREDDS FTP Web Map Service (WMS)
CDR Sea Ice Concentration	This dataset provides a CDR of passive microwave sea ice concentration based on the recommendations from the National Research Council. It is produced from gridded brightness temperatures from the DMSP series of SSMI passive microwave radiometers: F-8, F-11, and F-13. The NOAA National Snow and Ice Data Center CDR sea ice concentrations provide a consistent, daily time series of sea ice concentrations from July 9, 1987 through December 31, 2007.	North and south polar regions; polar stereographic	Daily and monthly; 1987–2007	FTP
HURSAT	Gridded brightness temperatures centered on tropical cyclones from around the globe. Data from geostationary (HURSAT-B1), polar orbiting data (HURSAT-AVHRR), and SSMI (HURSAT-MW) are available. Latest release is version v05.	Global; varying resolutions	Three-hourly; 1979–2009	FTP:AVHRR FTP:B1 FTP:SSMI
IBTrACS	The International Best Track Archive for Climate Stewardship (IBTrACS) provides tropical cyclone best track data in a centralized location to aid our understanding of the distribution, frequency, and intensity of tropical cyclones worldwide.	Global	Six-hourly; 1851–2010	FTP

Satellite Data Access by Satellite and Instrument—Suomi NPP

Dataset	Description	Spatial Information	Temporal Information	Access
Advanced Technology Microwave Sounder (ATMS)	Provides sounding observations needed to retrieve profiles of atmospheric temperature and moisture. In HDF format.	Global	Beta maturity 12/10/2011 continuing to present	CLASS
Cross-track Infrared Sounder (CrIS)	A Fourier transform spectrometer with 1,305 spectral channels producing high-resolution, 3-D temperature, pressure, and moisture profiles. Products include compressed radiance data, cloud cleared radiance, carbon products, radiation budget parameters, and blended ozone products. In HDF format.	Global	Beta maturity 4/19/2012 continuing to present	CLASS
Visible Infrared Imaging Radiometer Suite (VIIRS)	A scanning radiometer collecting visible and infrared imagery and radiometric measurements of the land, atmosphere, cryosphere, and oceans. It extends and improves upon a series of measurements initiated by AVHRR and the Moderate Resolution Imaging Spectroradiometer. In HDF format.	Global; 0.75 km horizontal resolution for most spectral measurements	Beta maturity 2/7/2012 continuing to present	CLASS
Ozone Mapper Profiler Suite (OMPS)	An advanced suite of three hyperspectral instruments extending the 25-plus-year total ozone and ozone profile records. In HDF format.	Global vertical distribution of ozone from 15-60 km	Beta maturity 3/1/12 continuing to present	CLASS

Satellite Data Access by Satellite and Instrument—GOES and Other Geostationary Data

Dataset	Description	Spatial Information	Temporal Information	Access
GOES Level 1b	GOES imager and sounder data from NOAA's CLASS. SMS-1/2 and GOES-1 through 7 are available in the PRE_GVAR, while GOES-8 and beyond are in the GVAR_IMG and GVAR_SND families. Data are available as MCIDAS Area files, NetCDF, and imagery (e.g., JPEG, PNG).	Western Hemisphere; up to 1 km	1979–present; up to one min	CLASS
CDR GridSat	CDR Program GridSat from ISCCP B1 Infrared window channel brightness temperatures. Data have been calibrated and remapped to gridded netCDF.	70°N–70°S; 8km	Three-hourly; 1981–2009	THREDDS FTP WMS

For help on reading, navigating, and calibrating GOES Level 1b (GVAR and PreGVAR) data, please see [Satellite FAQ](#).

Satellite Data Access by Datasets—POES

Dataset	Description	Spatial Information	Temporal Information	Access
POES Level 1b	Raw data files for instruments on the NOAA polar orbiting satellite series are available through CLASS. These include AVHRR, HIRS, Microwave Sounding Unit (MSU), Advanced Microwave Sounding Unit (AMSU), and other instruments.	Global; varying resolution	1979–present	CLASS
CDR PATMOS Reflectance	Calibrated reflectance for AVHRR reflectance channels (ch1, ch2, ch3a, ch3b) with climate quality. The data are in equal angle orbital (ascending and descending) grid and in both netCDF and HDF formats.	Global; 0.1 deg	Daily; 1978–2009	THREDDS
CDR HIRS OLR	CDR Program intercalibrated HIRS OLR. In addition to being useful for calculating radiation budgets, these data serve as a valuable proxy for tropical cloudiness and rainfall.	Global; 2.5 deg	Monthly; 1979–2010	THREDDS
CDR HIRS Ch. 12	CDR Program intercalibrated HIRS clear sky brightness temperatures for channel 12. Being sensitive to upper tropospheric humidity, this channel provides information on the distribution and transport of water vapor in the atmosphere.	Global; varying resolution	Twice daily per satellite; 1979–2010	THREDDS
VTPR	The Vertical Temperature Profile Radiometer (VTPR) was an operational eight-channel sounding system mounted on the NOAA-2 through NOAA-5 spacecrafts. The instrument made routine observations for deriving atmospheric temperature soundings.	Global; varying resolution	Twice daily; 1972–1979	FTP THREDDS

The NOAA Polar Orbiter Data User's Guide is available for [NOAA-14 and earlier](#) and [NOAA-15 and later \(NOAA-KLM\)](#).

Satellite Data Access by Datasets—Microwave

Dataset	Description	Spatial Information	Temporal Information	Access
CDR UAH MSU/ AMSU Tb	CDR of the University of Alabama-Huntsville (UAH) version of Mean Layer Temperatures for the lower troposphere, middle troposphere, and lower stratosphere (TLS), using the MSU and the AMSU.	Global; 2.5 deg	Monthly; 1978–2011	THREDDS
CDR NCAR AMSU-A Ch. 9	CDR of the National Center for Atmospheric Research (NCAR) version of the intercalibrated AMSU channel 9 (TLS) measurements from NOAA, NASA, and MetOp-A polar orbiters. The product consists of monthly mean averages of calibrated AMSU channel nine measurements, a mean monthly climatology calculated using nine full years of data, and monthly anomaly values.	Global; 2.5 deg	Monthly; 2001–2010	THREDDS
CDR RSS V6 SSMI Tb	The Remote Sensing Systems (RSS) Version-6 SSMI CDR has incorporated geolocation corrections, sensor calibration (including cross-scan biases), and quality-control procedures in a consistent way for the entire SSMI period of record. In addition, brightness temperatures from the six SSMIs (F08, F10, F11, F13, F14, and F15) have been intercalibrated, which allows users to use these SSMI products for detailed interannual and decadal trend studies.	Global; varying resolution	1987–present	THREDDS
SSMI-SSMIS TDR, SDR, EDR	Original DMSP SSMI datasets from the F-8, F-10, F-11, F-13, F-14, and F-15 platforms and SSMIS datasets from the F-16, F-17, and F-18 platforms covering the period from 1997 to the present. The available data types are temperature data record (TDR), sensor data record (SDR), and environmental data record (EDR).	Global; varying resolution	1997–present	CLASS
SSMI-SSMIS 3 hourly netCDF	Reprocessed SSMI TDR and SDR datasets stored as netCDF files. In addition to reformatting the data, quality checks have been performed. SSMIS TDR and SDR datasets have also been reformatted without quality checks.	Global; varying resolution	Three-hourly; 1987–present	CLASS

Service Fees

While much of NOAA's NCDC satellite data and products are free to download from online information technology systems, such as CLASS, service fees will apply for orders shipped on physical media. The three types of physical media offered are external disk drives, DVDs, and LTO data storage tapes. Service fees will also apply to very large orders, known as bulk orders, in excess of 1 terabyte if data must be manually pulled by NCDC personnel. The bulk order service fees apply whether the data is delivered on physical media or transferred to an FTP server. These bulk orders are completed at a lower priority and may take several weeks to process and complete depending on available resources. Please contact the Satellite Services Group with your requirements to determine if service fees will apply in your situation.

Contact information for satellite data and products:

Telephone: 828-271-4850 x3183

Fax: 828-271-4876

E-mail: ncdc.satorder@noaa.gov



Online and Operational Services

Model Data, Products, and Services

NOAA NATIONAL CLIMATIC DATA CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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NCMP > DATA ACCESS > MODEL DATA

Model Data

To address a growing need for remote access to high-volume numerical weather prediction and global climate models and data, NCDC, along with the National Centers for Environmental Prediction (NCEP) and the Geophysical Fluid Dynamics Laboratory (GFDL), initiated the NOAA Operational Model Archive and Distribution System (NOMADS) project. NOMADS is a repository of weather model output datasets, model input datasets (assimilation), and a limited subset of climate model datasets generated by NOAA. NCDC provides near real-time access to these weather model forecast data in addition to historical model data.

Looking into the past, present, and future, three broad categories of modeled data are available through NOMADS: Reanalysis, Numerical Weather Prediction, and Climate Prediction. To assist users in the analysis of multi-disciplinary datasets and promote interoperable data analysis, NOMADS also services derived/other model data including sea surface temperatures (SST), Paleoclimatic (tree ring and ice core) data, observational, and derived observational datasets. More information and data are available through the NOMADS homepage.

- All Model Datasets
All model datasets listed by category.
- Reanalysis
Past weather data summarized onto grids.
- Numerical Weather Prediction
Gridded weather forecast data.
- Climate Prediction
Past and future forecasts of climate.
- Derived / Other Model Data
Multi-disciplinary derived and observational datasets.

3-D animated image of downloaded Global Forecast System (GFS) model data showing Hurricane Katrina making landfall on August 29, 2005. This image was generated with the Visualization and Analysis Platform for Ocean, Atmosphere, and Solar Reservoirs (VAPOR) tool and Imagetage.

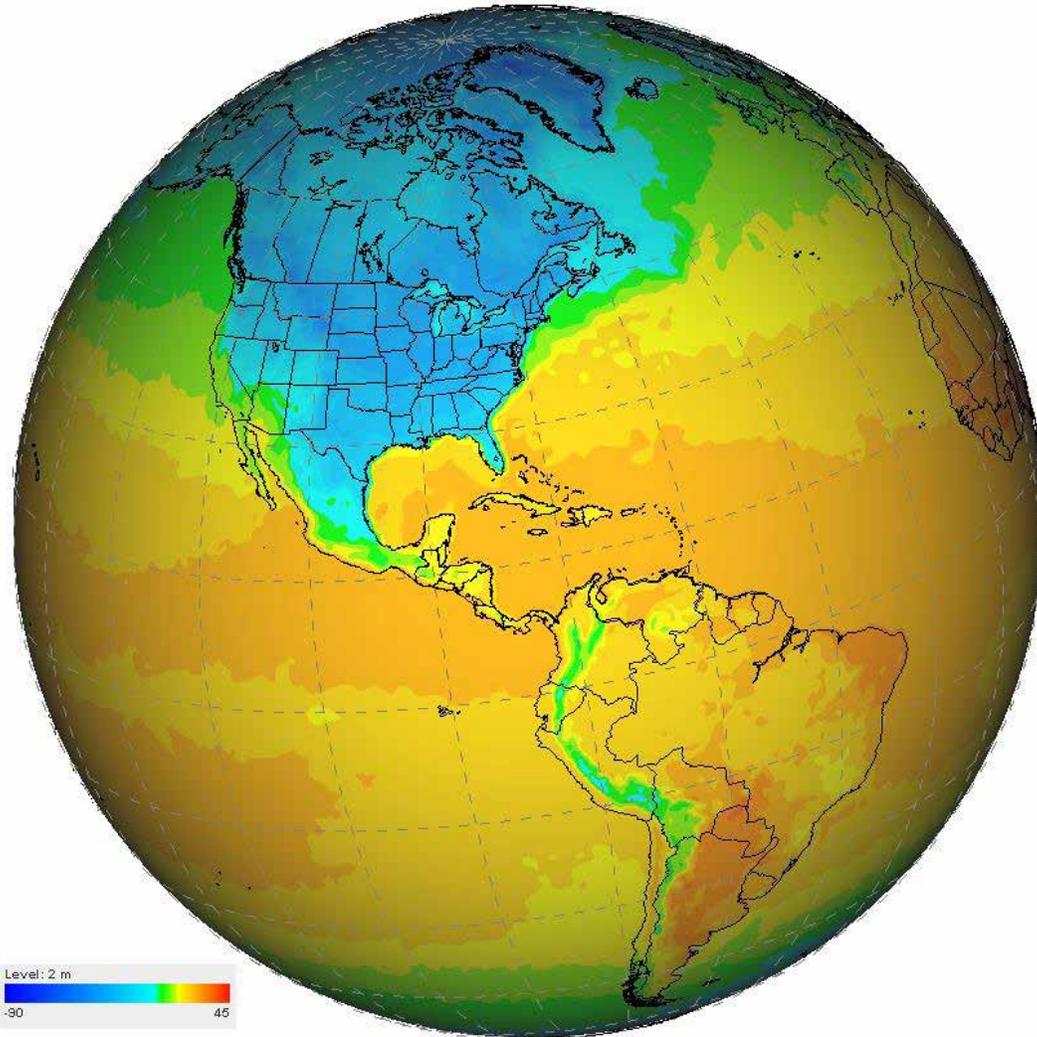
www.ncdc.noaa.gov/data-access/model-data

National Climate Model Portal

The National Climate Model Portal (NCMP) will provide reliable, consistent, long-term public access, interoperability, and intercomparison of climate reanalysis products and observational datasets for all levels of expertise and be the initial access point for model data for Climate.gov. With the development of tools for improvement and use of model data and information underway, an important early NCMP contribution is access to several reanalysis datasets, including the National Centers for Environmental Prediction (NCEP) Climate Forecast System Reanalysis (CFSR) and North American Regional Reanalysis (NARR). Global CFSR data in the figure on the next page depict the very impressive Arctic air mass in place over North America on Christmas Day, 1983, under

which numerous temperature records were broken and citrus crop damage measured in the billions. The NCMP website—currently under development and available at ncmp.ncdc.noaa.gov—will direct users to advanced model data services and information.





12 UTC December 25, 1983
CFSR 2 m Temperature (°C)
Generated from NCM/NOMADS Data with Unidata IDV

NOAA's National Operational Model Archive and Distribution System

To address the growing need for real-time and retrospective access to a wide spectrum of model data, NCDC, NCEP, and the Geophysical Fluid Dynamics Laboratory initiated the NOAA National Operational Model Archive and Distribution System (NOMADS). The model dataset archive established by NOMADS includes:

- Numerical Weather Prediction models such as the Global Forecast System (GFS), North American Mesoscale (NAM), Rapid Update Cycle (RUC), and Rapid Refresh (RAP)
- Multimember ensembles such as GENS
- Global Data Assimilation System (GDAS) model input

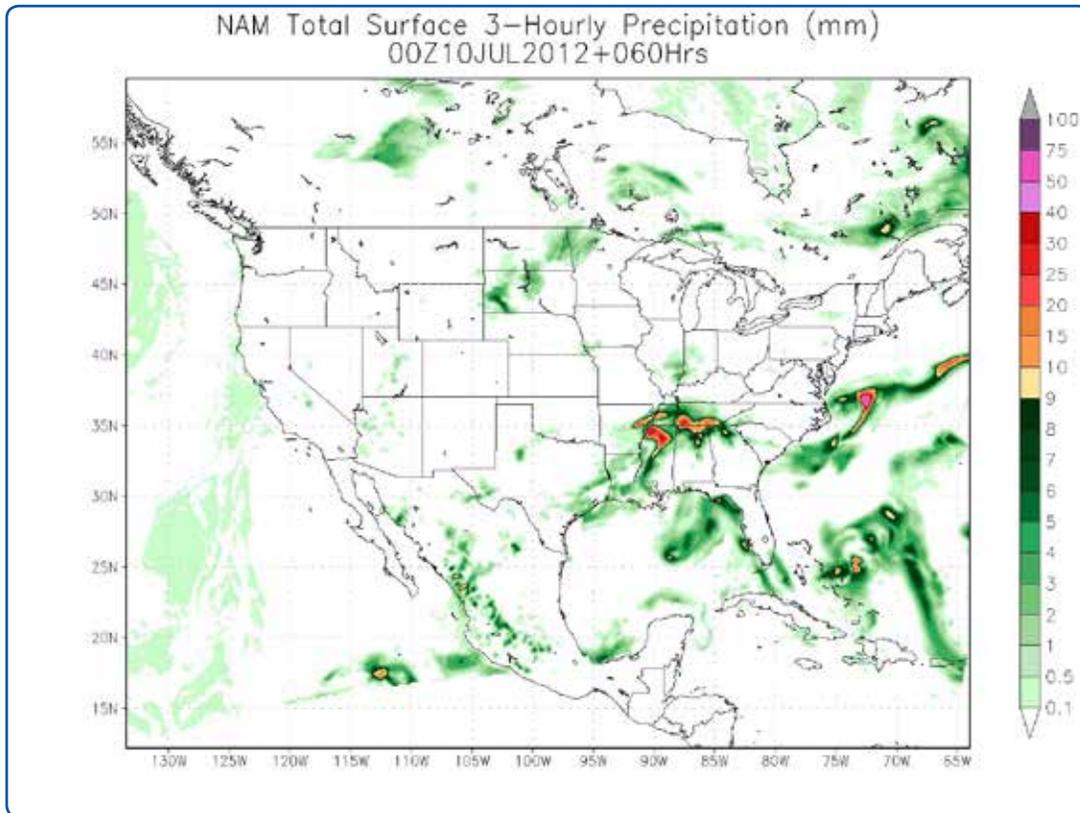
and restart files

Methods of access for data and derived products:

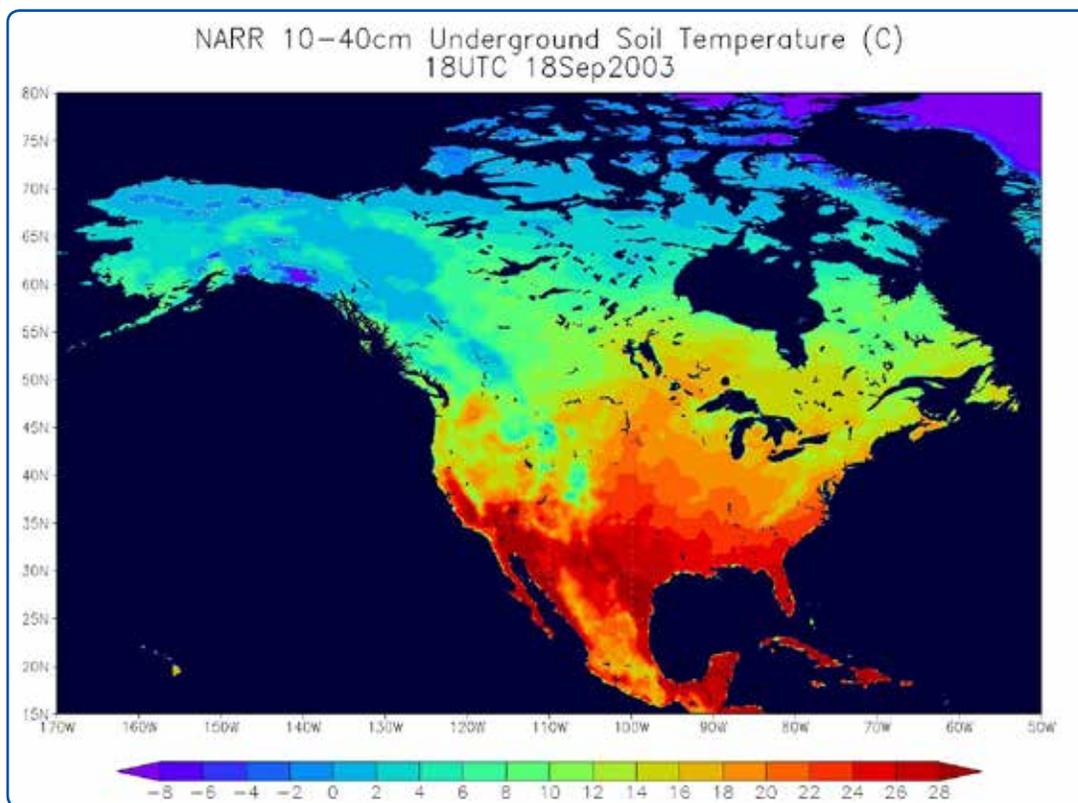
- Distributed format independent access via OPeNDAP
- FTP and HTTP access to data subsets in their native format
- Web plotting and aggregation service
- GrADS Data Server
- Unidata's Thematic Real-time Environmental Distributed Data Services (THREDDS) Data Server includes OpenGIS Web Coverage Service and Web Map Service

Additionally, NOMADS provides customer support for users of advanced model data and information.

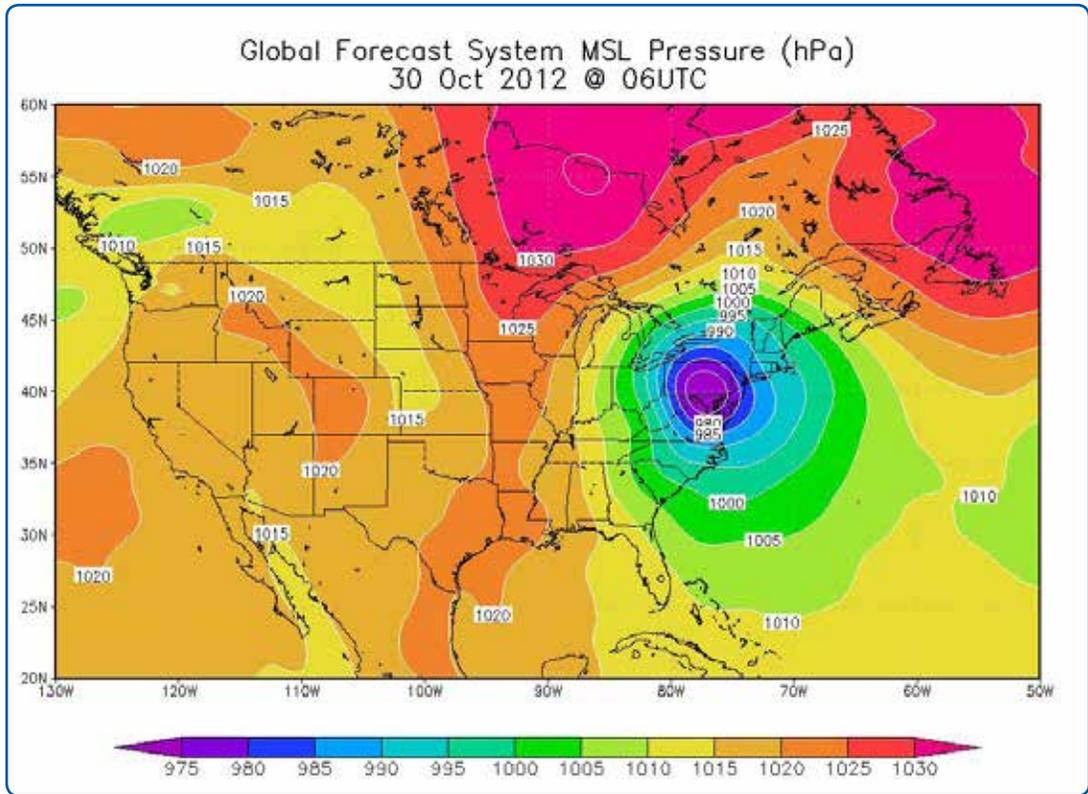
E-mail: NOMADS.ncdc@noaa.gov



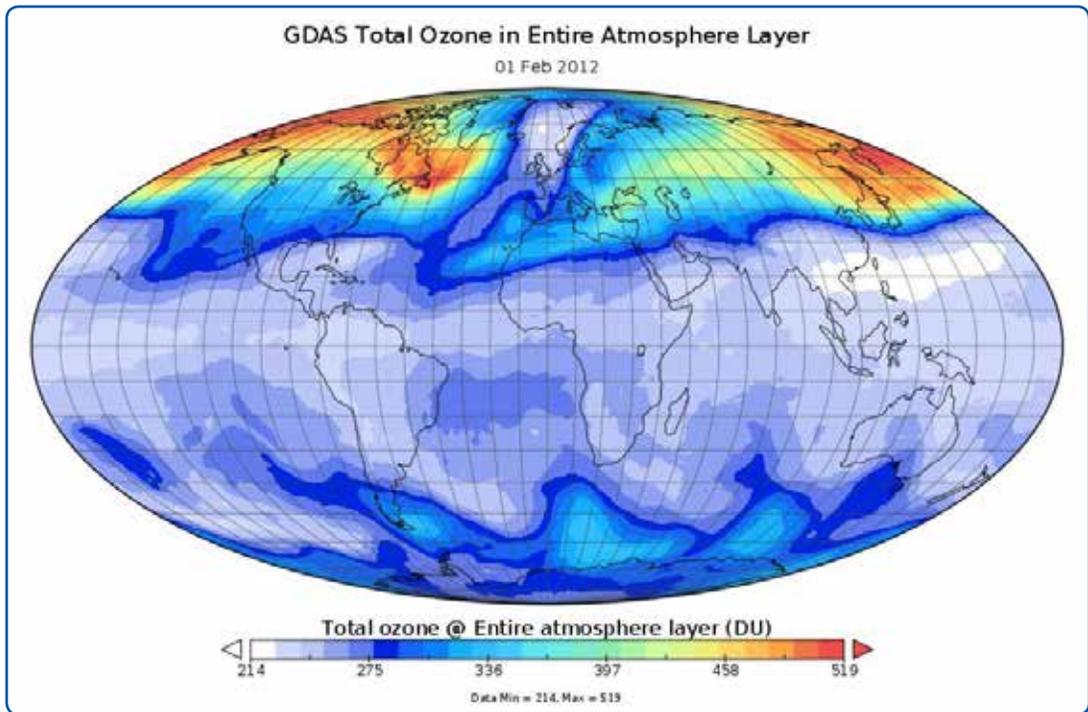
NAM Total Surface Three-Hourly Precipitation



NARR Underground Soil Temperature (a Layer from 10 cm to 40 cm Below Ground)



GFS Mean Sea Level Pressure Showing Super-Storm Sandy 2012



GDAS Total Atmospheric Ozone at 0000 UTC on February 1, 2012



NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)



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NOAA National Operational Model Archive & Distribution System

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The NOAA National Operational Model Archive and Distribution System (NOMADS) is a Web-services based project providing both real-time and retrospective format independent access to climate and weather model data.

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NOMADS Home Page

nomads.ncdc.noaa.gov



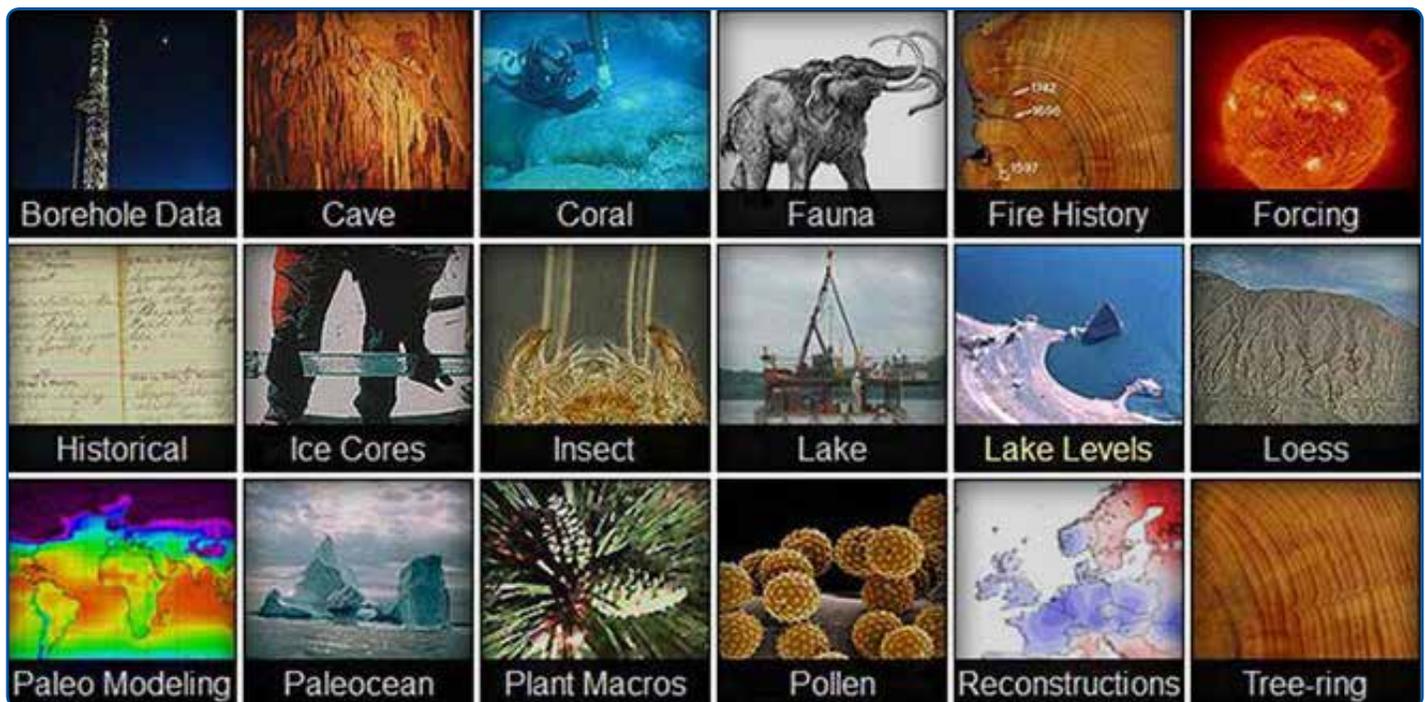
Online and Operational Services

Paleoclimate Data

DATABASE: Paleoclimatology Data

Data about past climate and environment derived from a diverse range of proxies, such as tree rings and ice cores. The data are time series of geophysical or biological measurements and some include reconstructed climate variables, such as temperature and precipitation.

- **Data Type:** ASCII character data
- **Quality Control:** Undergoes publication peer review and some manual quality control
- **Data Origin:** Academic and government researchers
- **Content and Elements:** Time series of geophysical or biological measurements, processed average proxy values such as tree growth indices, and reconstructed climate variables
- **Period of Record:** All periods prior to instrumental weather records, extending from hundreds to millions of years before present
- **Online:** www.ncdc.noaa.gov/data-access/paleoclimatology-data



www.ncdc.noaa.gov/data-access/paleoclimatology-data



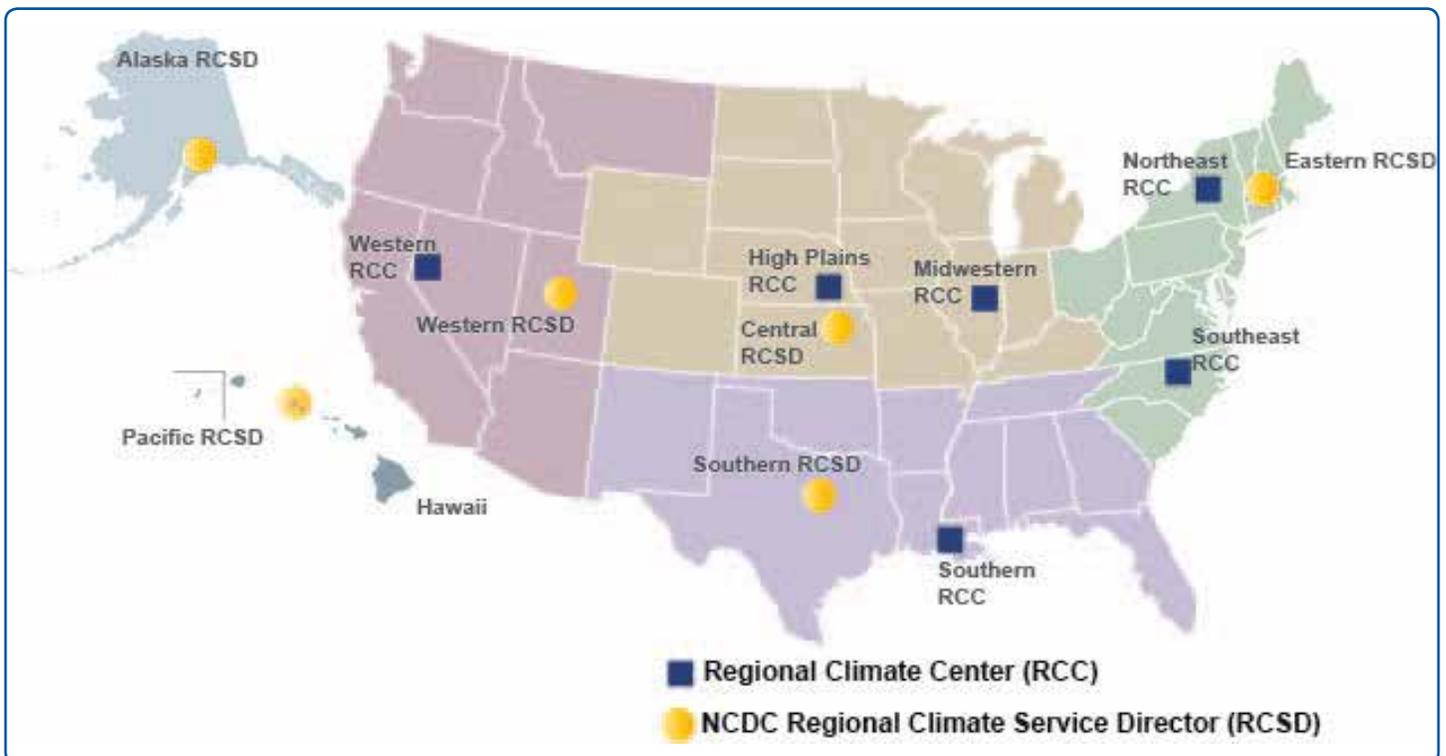
Online and Operational Services

NOAA's Regional Climate Services

Regional Engagement

Changing climate conditions impact our lives in many ways, making having the right kinds of climate information at an appropriate scale key to anticipating and responding to these changes.

NCDC's regional climate services make relevant climate information accessible to people across the Nation. From engineers to insurers, gardeners to public health officials, people who use climate data, forecasts, products, and services will find that NCDC's regional climate services can meet their information needs.

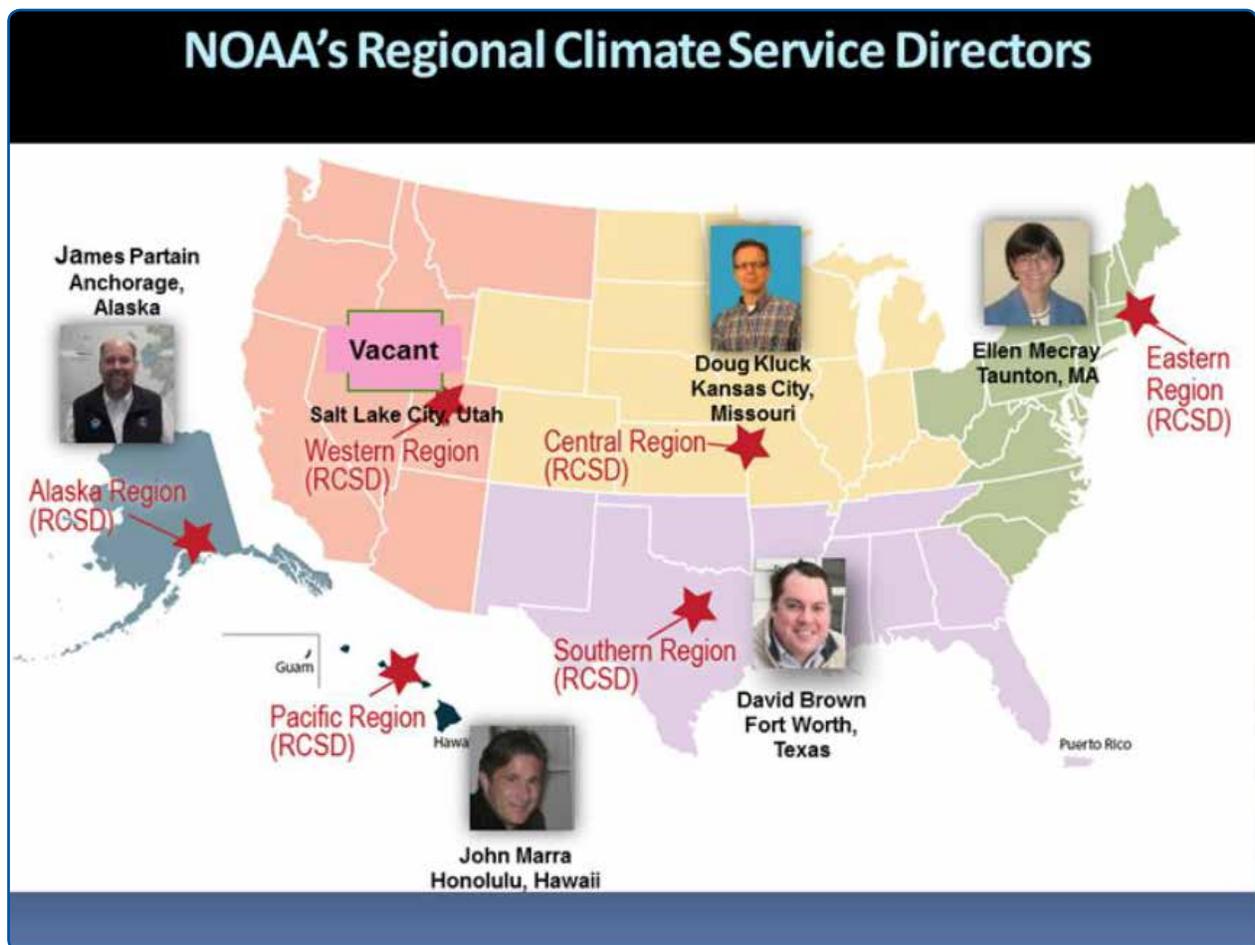


www.ncdc.noaa.gov/climate-information/regional

Regional Climate Services Directors

NCDC's six Regional Climate Services Directors (RCSDs) support the development and delivery of a wide range of place-based climate science and information products and services to help people make informed decisions. RCSDs regularly communicate with stakeholders about climate information needs and help build and strengthen active partner networks with public and private constituents. They play a primary role in integrating the work within NOAA and among its partners engaged in developing

and delivering climate services at the regional level, including the Regional Integrated Sciences and Assessment programs, Regional Climate Centers, state climatologists, and the National Integrated Drought Information System as well as other agencies, institutions, and organizations. These efforts serve to increase the value of climate information to users and support more efficient, cost-effective delivery of products and services.



www.ncdc.noaa.gov/climate-information/regional

From the RCSDs web page, www.ncdc.noaa.gov/climate-information/regional, you can click on the individual regions and see particular decision-support tools and resources listed for that region.

For example, the Eastern Region has the NEclimateUS.org or “neXus,” a searchable online database that provides a gateway to climate information for the eastern United States.

NEclimateUS.org

HOME NEEDS DATA, PRODUCTS & SERVICES PROJECTS & ACTIVITIES PROGRAMS & PARTNERS BIBLIOGRAPHY

» HOME
NEEDS
DATA AND PRODUCTS
PROJECTS AND ACTIVITIES
PROGRAMS & PARTNERS
BIBLIOGRAPHY
ABOUT
CONTACT US

NEclimateUS.org (a.k.a. 'neXus') is a searchable online database that provides a gateway to climate information for the Eastern US. It summarizes needs for climate information as articulated in publications; identifies available data, products and services; and captures planned and on-going projects. The goal is to offer a tool to search for regionally relevant climate information, and to facilitate collaborative opportunities across the network of climate-focused programs and partners in the Eastern US. NeclimateUS.org is in its early stages of development. Content will change with time to reflect developments in climate work within the region, and in response to individual sector needs when necessary. For detailed information about the content of NEclimateUS.org and tips for using the site, please visit [about NEclimateUS.org](#).

nexus [ˈnɛksəs] *n*
pl **nexus**

1. a means of connection between members of a group or things in a series; link; bond
2. a connected group or series [from Latin: a binding together, from *nectere* to bind]

This website was developed through the collaborative efforts of NOAA, NALCC, NWF and EPA.

PACIFIC CLIMATE INFORMATION SYSTEM
Building Integrated Partnerships for End-to-End Climate Services

PaGIS

EL NIÑO IS HERE
KAPITI, BAHAMAS, THE
WESTERN HILLS
PUNTA LA NOUR

The Pacific Climate Information System (PaGIS) provides a programmatic framework to bring together ongoing and future climate observations, operational forecasting services and climate projections, research, assessment, data management, outreach, and education - an integrated system of climate services - to address the needs of the Pacific Islands. It provides a forum for sharing the expertise, experience, and perspective needed to guide integrated program planning and product development.

Actionable Information to Support Resilient Communities and Sustainable Ecosystems

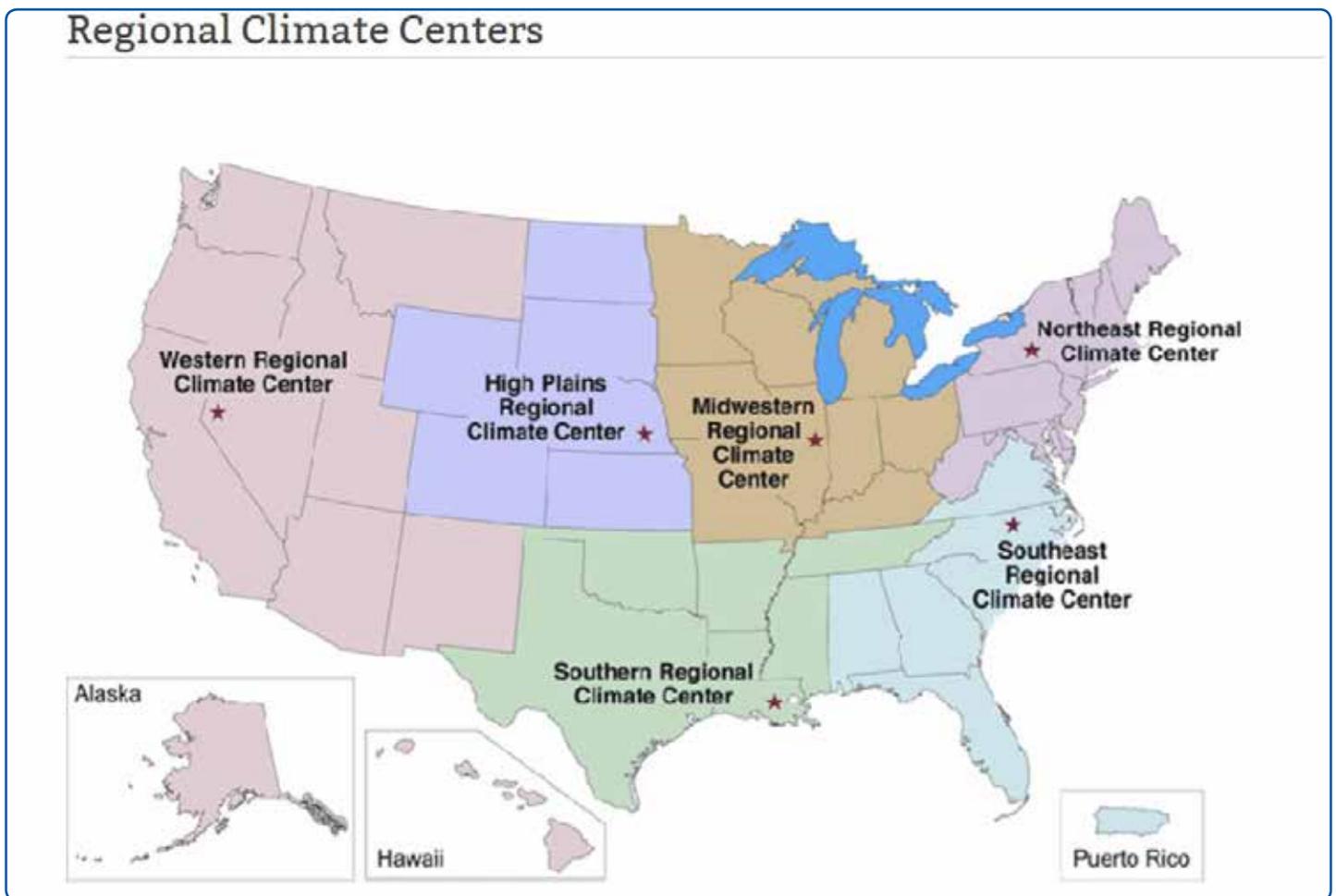
FOCUS AREAS DATA & PRODUCTS PROJECTS & ACTIVITIES ASSESSMENTS PARTNERS & PROGRAMS
SCENARIOS OUTLOOKS CLIMATOLOGIES

Meanwhile, the Pacific Region has the [Pacific Climate Information System](#), which provides a programmatic framework that brings together ongoing and future climate observations; operational forecasting services; and climate projections, research, assessment, data management, outreach, and education. This is an integrated system of climate services to address the needs of the Pacific Islands.

Regional Climate Centers

There are also six Regional Climate Centers (RCCs) that are a federal-state cooperative effort. NCDL manages the RCC Program, which is designed to engage in the production and delivery of climate data, information, and knowledge for decision makers and other users at the local, state, regional, and national levels. The RCCs support NOAA's efforts to provide operational climate services while leveraging improvements in technology and collaborations with partners to expand quality data dissemination capabilities.

From the RCCs web page, you can click on the individual regions and see particular decision-support tools and resources listed for that region.



www.ncdc.noaa.gov/customer-support/partnerships/regional-climate-centers



CD-ROM/DVD Products

NCDC has produced a suite of CD-ROMs and DVDs with diverse environmental data ranging from global tropical cyclone tracks to worldwide climatologies to hourly surface data. Below is a listing with descriptions of some of the more popular discs we offer. A more extensive listing, further details concerning these discs, as well as an online ordering system (with discounted prices versus those listed below) are accessible via:

ols.nndc.noaa.gov/plolstore/plsql/olstore.prodlist?category=C&subcatc=01&groupin=CDV

Integrated Surface Hourly Observations

The global surface hourly observations contained on this CD-ROM and DVD set are integrated from all of the NCDC and Navy surface hourly data, NCDC hourly precipitation, and Air Force surface hourly data. Hourly and synoptic type data for approximately 12,000 global stations are available for 1995–2005. There are 24 volumes (1995–2002) separated by geographic region and time period. Global extraction software, including a map interface, is provided to aid in identifying and easily selecting the data in either full Integrated Surface Hourly format or abbreviated format. Various elements such as temperature, dew point, wind speed and direction, sea level pressure, visibility, cloud ceiling, present weather, precipitation, snowfall, snow depth, altimeter setting, and station pressure are available. The disks also contain a data inventory file showing the number of observations for each month of the year for each station. Each volume contains all the software, support files, and documentation so that it may be used alone or in combination with other volumes for each time period. An additional nine volumes (no extraction software included) on DVD cover 2003–2012, with each year available on a single DVD. \$35 per volume

International Station Meteorological Climate Summary

The International Station Meteorological Climate Summary Version 4.0 provides detailed climatological summaries for 2,600 locations worldwide. These locations include National Weather Service stations, domestic and overseas Navy and Air Force sites, and numerous foreign stations. Limited summaries are also given for approximately 4,000 additional worldwide sites. This version also contains year and month information and long-term mean precipitation data for 1,000 foreign locations. Tabular or statistical data can be printed or exported to a spreadsheet. This dataset is a joint NCDC, U.S. Air Force, and U.S. Navy product. Please note that the non-U.S. data cannot be redistributed for commercial purposes by users of the CD. \$35

NCDC Cooperative Station Data

These CD-ROMs contain ASCII data files and associated station history files for the Cooperative Summary of the Day dataset. This dataset is a compilation of daily observations from more than 20,000 cooperative weather stations in the United States, U.S. Caribbean Islands, U.S. Pacific Islands, and Puerto Rico. It includes air and soil temperatures, rainfall, snowfall, and evaporation elements. A map interface is available on the eastern, central, and western disks. The period of record on these disks varies among stations but falls within the period from the 1850s through 2001. The update disk contains compressed files for 2002–2006 and also includes data for the “first-order” National Weather Service sites, with some additional data elements that are not reported by cooperative stations.

The files are in the raw, archive format without any software for conversion to a spreadsheet-ready format. \$105 for full set; \$35 per volume; \$35 for update disk

Engineering Weather Data

This CD-ROM contains an update of a very popular publication that was first printed by the Air Force in 1967 and republished in 1978. As compared to the original Engineering Weather Data publication, the new interactive CD-ROM database contains updated meteorological tables, new summarized parameters, and graphical displays. Approximately 800 worldwide stations have been summarized. For each station, the data and information on this CD-ROM include summarized design criteria data for dry and wet bulb temperatures and humidity ratios, average annual climate summaries, psychrometric summaries, binned temperature data, annual temperature and humidity summaries, heating and cooling degree data summaries for building envelope loads, ventilation and infiltration loads, solar radiation data, and seasonal wind direction and wind speed summaries. Please note that the non-U.S. data cannot be redistributed for commercial purposes by users of the CD. \$35

Important Notes

Some NCDC CD-ROM products were produced for use in a "DOS" or Windows PC environment and will not work in an Apple "MAC" environment. In addition, some of the NCDC CD-ROMs were produced in a pre-Windows 95/98/XP/7 environment and may not work without configuration. If you have technical questions, email ncdc.orders@noaa.gov.

NCDC's User Engagement Services Branch is responsible for distribution of NCDC CD-ROM and DVD products.

Ordering information

Attn: User Engagement Services Branch
National Climatic Data Center
151 Patton Ave,
Asheville, NC 28801-5001
Telephone: 828-271-4800
Fax: 828-271-4876
Email: ncdc.orders@noaa.gov

Online Store: ols.ndc.noaa.gov/plolstore/plsql/olstore.main?look=1

Prepayment must accompany orders. We accept payment by Visa, MasterCard, American Express, Discover, wire transfers, and Automated Clearing House. For domestic orders, please add a \$3.00 service charge per order; foreign orders, add \$39.00 per order.



Publications

A number of NCDC's climate summaries, publications, and documents are available online.

Data Publications

This includes monthly publications for a variety of datasets along with serial publications and other documents, most of which are available as PDF files. To view PDF files, you must have Adobe Reader.

As of February 13, 2012, all publications are now provided free of charge for all users.

Local Climatological Data

Local Climatological Data contain summaries from major airport weather stations that include a daily account of temperature extremes, degree days, precipitation amounts, and winds. Also included are the hourly precipitation amounts and abbreviated three-hourly weather

observations. This is the final quality-controlled copy and generally has a one- to two-month time lag.

Climatological Data

Climatological Data monthly and annual publications contain station daily maximum and minimum temperatures and precipitation amounts. Some stations provide daily snowfall, snow depth, evaporation, and soil temperature data. Each issue also contains monthly summaries for heating and cooling degree days (65°F base). The July issue also contains monthly heating degree days and snow data for the preceding July through June. The annual issue contains monthly and annual averages of temperature, precipitation amounts, temperature extremes, freeze data, soil temperatures, evaporation, and a recap of monthly cooling degree days. This is the final quality-controlled copy and generally has a four- to six-month time lag. Over 8,000 stations are active nationwide.

Hourly Precipitation Data

This publication is no longer operationally produced. Data are now available through the [Climate Data Online System](#). Hourly Precipitation Data publications contain hourly precipitation amounts obtained from recording rain gauges located at National Weather Service, Federal Aviation Administration, and cooperative observer stations. Published data are displayed in inches to tenths of inches or, in some cases, to hundredths at local standard time. Hourly Precipitation Data include maximum precipitation for nine time periods from

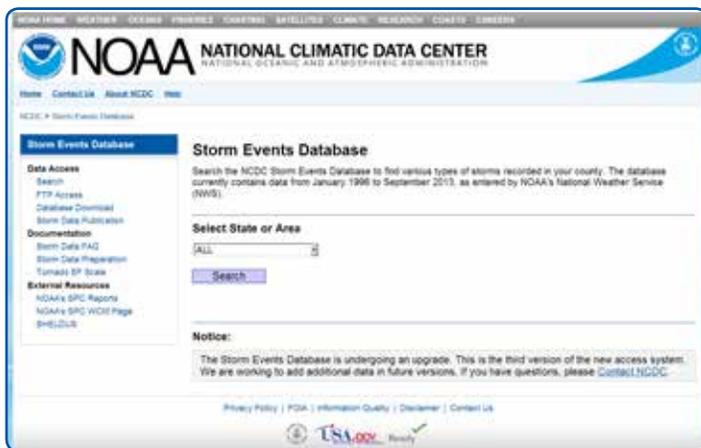
OCTOBER 2013 LOCAL CLIMATOLOGICAL DATA NOAA, National Climatic Data Center										ASHEVILLE, NC ASHEVILLE REGIONAL AIRPORT (KAVL) Lat:35° 25'N Long: 82° 32'W Elev (Ground) 2117 Feet Time Zone : EASTERN WBAN: 03812 ISSN#: 0198-3709										
Date	Temperature °F				Deg Days BASE 65°		WEATHER	SNOWICE (IN GNDIN)		PRECIPITATION (IN GNDIN)		PRESSURE (INCHES OF HG)		WIND		SPEED-MPH DIR-TENS OF DEGREES				
	MAXIMUM	MINIMUM	AVERAGE	DEFF FROM NORMAL	AVERAGE DEW PT	AVERAGE WET HR		HEATING	COOLING	DEPTH	WATER EQUIV	SNOW FALL	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	DIR	AVERAGE SPEED	MAXIMUM BASED DIR	2-MIN
01	77	54	60	5	54	59	0	0	0.0	0.00	27.87	30.12	1.4	32	2.1	10	33	9	33	01
02	79	54	67	4	57	60	0	0	0.00	0.00	27.90	30.14	1.4	34	3.4	17	35	13	35	02
03	79	56	68	6	59	62	0	0	0.00	0.00	27.89	30.12	1.4	34	2.0	17	22	10	38	03
04	80	54	68	8	60	63	0	0	0.00	0.00	27.91	30.14	1.4	34	2.0	15	24	12	34	04
05	81	57	69	9	61	63	0	0	0.00	0.00	27.89	30.12	1.4	35	2.0	15	24	10	37	05
06	78	57	62	8	58	60	0	0	0.00	0.00	27.88	30.12	1.4	34	2.0	18	24	10	34	06
07	65	53	59	5	53	56	4	0	0.00	0.00	27.88	30.12	1.4	34	2.0	18	24	10	34	07
08	47	49	56	1	47	51	7	0	0.00	0.00	27.88	30.12	1.4	34	2.0	18	24	10	34	08
09	73	44	59	1	47	51	6	0	0.00	0.00	27.91	30.14	1.4	34	2.0	17	24	10	34	09
10	72	45	59	1	49	53	6	0	0.00	0.00	27.94	30.16	1.4	34	2.0	17	24	10	34	10
11	74	48	61	3	51	55	4	0	0.00	0.00	27.90	30.14	1.4	34	2.0	17	24	10	34	11
12	73	49	61	3	54	57	4	0	0.00	0.00	27.91	30.14	1.4	34	2.0	17	24	10	34	12
13	70	59	66	6	60	63	0	0	0.00	0.00	27.92	30.17	1.4	34	2.0	15	23	13	34	13
14	69	56	62	6	57	59	9	0	0.00	0.00	27.90	30.14	1.4	34	2.0	15	23	13	34	14
15	69	56	61	6	55	57	4	0	0.00	0.00	27.90	30.13	1.4	34	2.0	15	23	13	34	15
16	68	51	60	4	54	57	5	0	0.00	0.00	27.90	30.13	1.4	34	2.0	15	23	13	34	16
17	68	54	61	5	58	60	4	0	0.00	0.00	27.91	30.14	1.4	34	2.0	15	23	13	34	17
18	69	48	58	1	50	53	6	0	0.00	0.00	27.91	30.14	1.4	34	2.0	15	23	13	34	18
19	64	48	54	0	50	53	9	0	0.00	0.00	27.91	30.14	1.4	34	2.0	15	23	13	34	19
20	64	41	53	-2	41	46	12	0	0.00	0.00	27.96	30.18	1.4	34	2.0	15	23	13	34	20
21	46	37	52	-3	46	49	13	0	0.00	0.00	27.81	30.07	1.4	34	2.0	15	23	13	34	21
22	48	48	58	1	48	52	7	0	0.00	0.01	27.88	29.90	1.4	34	2.0	15	23	13	34	22
23	58	37	48	-6	34	42	17	0	0.00	0.00	27.89	30.14	1.4	34	2.0	15	23	13	34	23
24	54	34	44	-10	32	39	21	0	0.00	0.00	27.82	30.12	1.4	34	2.0	15	23	13	34	24
25	47	29	38	-16	25	33	27	0	0.00	0.00	27.99	30.30	1.4	34	2.0	15	23	13	34	25
26	57	25	41	-12	29	36	28	0	0.00	0.00	27.93	30.22	1.4	34	2.0	15	23	13	34	26
27	45	42	54	1	42	48	13	0	0.00	0.00	27.82	30.09	1.4	34	2.0	15	23	13	34	27
28	41	45	53	0	50	51	12	0	0.00	0.00	27.89	30.21	1.4	34	2.0	15	23	13	34	28
29	48	45	57	4	49	52	8	0	0.00	0.00	28.01	30.29	1.4	34	2.0	15	23	13	34	29
30	75	50	63	11	52	56	4	0	0.00	0.00	27.97	30.22	1.4	34	2.0	15	23	13	34	30
31	64	33	48	6	34	37	9	0	0.00	0.00	27.93	30.22	1.4	34	2.0	15	23	13	34	31
68.5 47.7 58.1 5 49.3 53.0 7.2 0.5 <MONTHLY AVERAGES> TOTALS >										7 2.19 27.84 30.09 1.4 34 2.0 15 23 13 34 25 2254										
0.4 1.3 1.7										DEPARTURE FROM NORMAL -0.72 SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
GREATEST 24-HR PRECIPITATION: 1.01 DATE: 04-07										SEA LEVEL PRESSURE: DATE: TIME										
GREATEST 24-HR SNOWFALL: 0 DATE: 25										MAXIMUM: 30.27 25 2254										
GREATEST SNOW DEPTH: 0 DATE: 0										MINIMUM: 29.75 31 2148										
HEATING: 222 +36										MAXIMUM TEMP >= 90: 0										
COOLING: 17 7										MINIMUM TEMP <= 32: 0										
TOTAL DEPARTURE SEASON TO DATE										PRECIPITATION >= 0.1 INCH: 0										
TOTAL DEPARTURE										PRECIPITATION >= 0.1 INCH: 0										
NUMBER OF DAYS WITH										THUNDERSTORMS: 1 0										
										HEAVY FOG: 0 0										

Sample Local Climatological Data Summary

15 minutes to 24 hours, for selected stations. They also include hourly accounts of precipitation amounts for many locations within a chosen state. This is the final quality-controlled copy and generally has a four- to six-month time lag. Over 2,500 stations are active nationwide.

[Storm Data](#)

Storm Data monthly publications contain a chronological listing, by states, of storm occurrences and unusual weather phenomena. Reports contain information on storm paths, deaths, injuries, and property damage. An Outstanding Storms of the Month section highlights severe weather events with photographs, illustrations, and narratives. Storm Data began in 1959 and is published with a single U.S. issue each month. Users may also search the [NCDC Storm Events Database](#) to find various types of storms recorded in your county or use other selection criteria as desired.



Storm Events Database

[Monthly Climatic Data for the World](#)

Monthly Climatic Data for the World (MCDW) publications contain monthly mean temperature, pressure, precipitation, vapor pressure, and hours of sunshine for approximately 2,000 surface data collection stations worldwide and monthly mean upper air temperatures, dew point depressions, and wind velocities for approximately 500 observing sites. The publication is issued monthly. This is the final quality-controlled copy and generally has a four- to six-month time lag.

[Cooperative Observer Program Data and Record of Climatological Observations Form](#)

These are monthly logs that include daily accounts of temperature extremes at participating locations and precipitation along with snow data at some locations. Available for thousands of sites that are a part of the cooperative observing network in the United States. The forms have a lag time of one to two months.

[Climatological Data National Summary](#)

Data include national general summaries of weather conditions, observed temperature and precipitation extremes by state, climatological data by station, heating degree and cooling degree days, flood data and losses, and storm summaries. Upper air data, sunshine, and solar radiation data are also summarized. The annual issues also contain the year's short rainfall duration statistics, hurricane and typhoon data and storm tracks for various basins, tornado information, and long-term statistics.

For further information visit:

www.ncdc.noaa.gov/data-access/land-based-station-data/data-publications

Historical and offline publication requests should be directed to NCDC Customer Service.

Phone: 828-271-4800

Fax: 828-271-4876

E-Mail: NCDC.Orders@noaa.gov



Climate Monitoring

One very important role of NOAA’s NCDL is to monitor and assess the state of the Earth’s climate in near real time, providing data and information on climate trends and variability—including perspectives on how the climate of today compares to the past—to decision makers at all levels of the public and private sectors. NCDL’s Climate Monitoring Branch routinely produces climate assessments on a monthly, seasonal, and annual basis. The purpose of these reports, which are available back to 1998, is to provide scientific insight into the Earth’s climate and historical perspective on its variability and change.

Climate analysis reports place the conditions for the past month, season, and year-to-date period into historical perspective. Portions of these reports are available online as early as the 5th business day of each month. Full reports, are released on the 15th business day of each month. Each report includes hundreds of graphics and text summaries of global and U.S. climate conditions, with historical perspective provided by more than 100 years of instrumental observations and hundreds of years of paleoclimate data from sources such as tree rings, ice cores, and sedimentary records.

The section on global conditions includes data about surface and upper air temperatures, precipitation, El Niño Southern Oscillation conditions, sea ice, and snow cover.

A U.S. national section provides statewide, regional, and national rankings for average temperature and precipitation. User-friendly graphics and short explanatory discussions make determination of conditions quick and easy.

U.S. Drought

% Area for U.S. (including Alaska, Hawaii & Puerto Rico) (As of 11/12/2013)
Info Source: National Drought Mitigation Center

Drought Category	Percentage
None	47.33%
D0	27.79%
D1	14.87%
D2	11.36%
D3	2.21%
D4	5.78%

www.ncdc.noaa.gov/climate-monitoring

What follows are some of the more prominent analyses sought after by NCDL customers.

U.S. Climate at a Glance

NCDL’s Climate at a Glance (CAG) combines basic U.S. and global climate information into one application. Tapping into NCDL’s divisional database, this application allows for tailored inputs such as custom begin and end dates, multiple month periods, and regions such as agricultural belts. Additionally, the U.S. portion of the application provides the option to define the base period from which departures are calculated, plot the trends in certain variables, and add a smoothed time series. The output time series is interactive, and the associated data table is sortable by

date, value, and rank. The data can also be downloaded in multiple formats including CSV, XML, and JSON.

The CAG mapping tools are interactive with zoom and pan capabilities. Plotting options such as ranks and departures from normal are available for many of the variables tracked.

CAG applications can analyze heating and cooling degree days as well as four Palmer drought indices. In addition to viewing ranks, the interactive mapping allows users to look at anomalies and actual monthly or multiple month values for divisions, states, regions, and the Nation.

By mid-2014, NCDC plans to release a more comprehensive version of the Climate at a Glance application that will provide access to more station data, including stations in Alaska and Hawaii. This version will also provide access to one-page summaries for each division, station, region, and the contiguous United States as well as ways to visualize differences between one period and another.

U.S. Drought Monitor

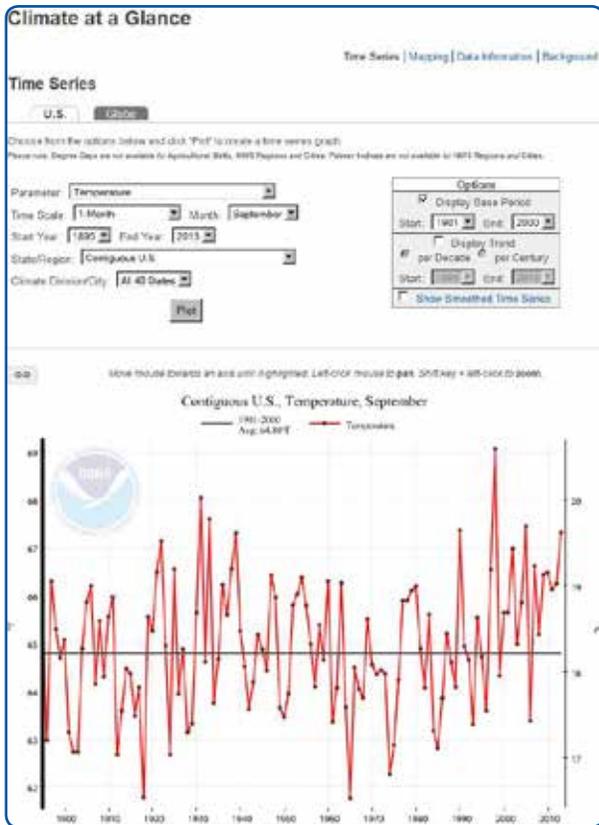
The U.S. Drought section provides numerous drought indicators and summaries of national, regional, and local drought conditions during the past month with a perspective on how the conditions compare with those of the preceding centuries.

Contents Of This Report:

- National Drought Overview
- Detailed Drought Discussion
 - Overview
 - Synoptic Discussion
 - Palmer Drought Index
 - Standardized Precipitation Index
 - Agricultural & Hydrological Indices and Impacts
- Regional Discussion
 - HI - AK - PR
 - CONUS State Ranks
 - Western U.S. Report
 - Agricultural Belt Report
 - Regional Climate Center Reports
 - Pacific Island Drought (HI, USAPI)
- State/Regional/National Moisture Status
- Drought Indicators
- Contacts & Questions



www.ncdc.noaa.gov/sotc/drought



www.ncdc.noaa.gov/cag

North American Drought Monitor

The North American Drought Monitor (NADM) is a cooperative effort between drought experts in Canada, Mexico, and the United States to monitor drought across the continent on an ongoing basis. The program, initiated in 2002, is part of a larger effort to improve the monitoring of climate extremes on the continent. The NADM is based on the highly successful U.S. Drought Monitor and as such, is being developed to provide an ongoing comprehensive and integrated assessment of drought throughout all three countries.

North American Drought Monitor

Overview | References | Links



- NADM maps
- Drought Monitoring Indices and Data
- Other Drought Monitoring Indices
 - o NESDIS Satellite VHI
 - o CPC Modeled Soil Moisture
 - o U.S. NWS Precipitation Analysis
- Geographical Reference Maps
- Climatology Maps

www.ncdc.noaa.gov/temp-and-precip/drought/nadm

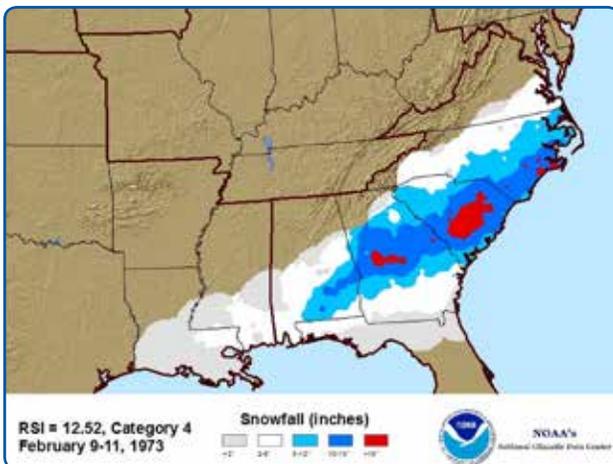
Regional Snowfall Index

NCDC now produces the Regional Snowfall Index (RSI) for significant snowstorms that impact the eastern two-thirds of the United States. The RSI ranks snowstorm impacts on a scale from one to five, similar to the Fujita scale for tornadoes or the Saffir-Simpson scale for hurricanes.



Category	RSI Value	Description
1	1-3	Notable
2	3-6	Significant
3	6-10	Major
4	10-18	Crippling
5	18.0+	Extreme

The RSI differs from these other indices because it includes population. The RSI is based on the spatial extent of the storm, the amount of snowfall, and the juxtaposition of these elements with population. Including population information ties the index to societal impacts. Currently, the index uses population based on the 2010 census.



www.ncdc.noaa.gov/snow-and-ice/rsi

U.S. Records

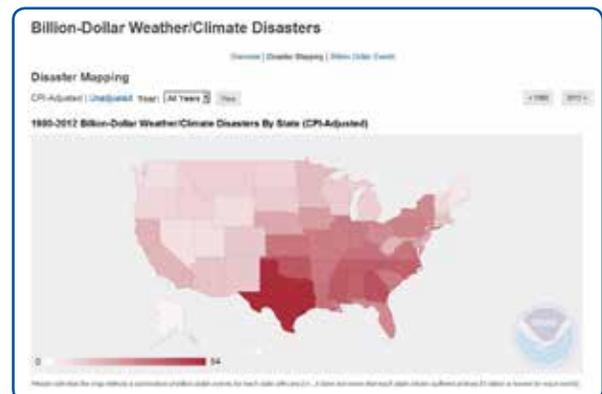
The U.S. Records page provides an easy and quick way to search for temperature, precipitation, and snowfall station records set on a given day or month.



www.ncdc.noaa.gov/extremes/records

Billion-Dollar Weather and Climate Disasters

NCDC serves as the “Nation’s Scorekeeper” in terms of addressing severe weather and climate events in their historical perspective. As part of its responsibility of monitoring and assessing the climate, NCDC tracks and evaluates climate events in the United States and globally that have great economic and societal impacts. NCDC is frequently called upon to provide summaries of global and U.S. temperature and precipitation trends, extremes, and comparisons in their historical perspective. The U.S. sustained 144 weather and climate disasters between 1980 and 2012 where overall damages and costs reached or exceeded \$1 billion (including CPI adjustment to 2013). The total cost of these 144 events exceeds \$1 trillion.



www.ncdc.noaa.gov/billions/summary-stats



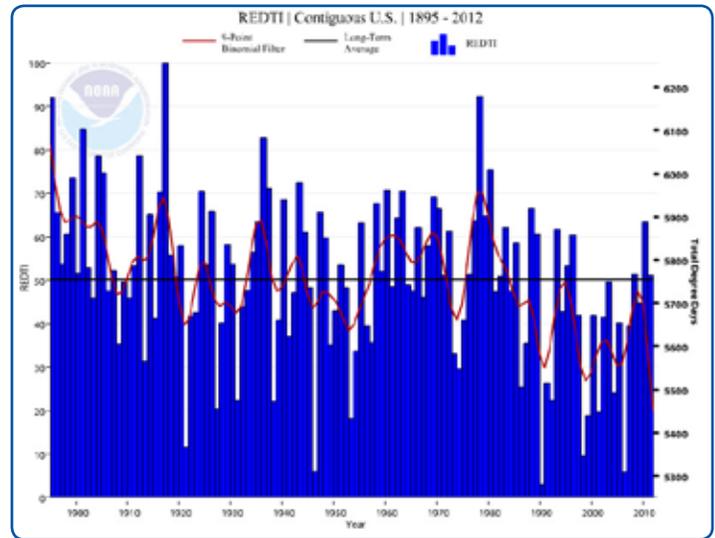
Sectoral Engagement

As part of its desire to reach out to climate-sensitive users, NCDC's services include sector-specific resources. The Sectoral web page (www.ncdc.noaa.gov/climate-information/sectoral) introduces information of interest to various sectors and entities, including sector fact sheets and links to useful resources. The page also houses the Residential Energy Demand Temperature Index (REDTI), a valuable tool for explaining year-to-year fluctuations in energy demand for residential heating and cooling. Planned updates include details from engagement workshops hosted or co-hosted by NCDC.

User Engagement Fact Sheets by Sector

NCDC provides downloadable fact sheets that give an overview of various sectors. Each fact sheet details the sector's key stakeholders, examples of sector needs, and relevant NCDC data and products. This climate information is currently available for the following sectors:

- Agriculture
- Forests and Forest Ecosystems
- Civil Infrastructure
- Construction
- Coastal Hazards
- Energy
- Health
- Insurance
- Litigation
- Marine and Coastal Ecosystems
- National Security
- Tourism
- Transportation
- Water Resources



www.ncdc.noaa.gov/societal-impacts/redti





Customer Service Contacts

NCDC provides a wide range of services to various users, ranging from large engineering firms designing the latest in safe, energy efficient structures to the attorney documenting a weather event to the individual planning a retirement move.

Services offered include data resource consultations, subscription items and publications, copies of original records, certifications, generation of specialized climate studies, and a host of other climate-related activities. Services are delivered on a variety of media, including online access, CD-ROMs, DVDs, computer tabulations, maps, and publications.

Customer Support

For specific information regarding NCDC products and services, customer support is only an email, fax, or call away. The customer support center is open Monday through Friday from 8:00 a.m. to 6:00 p.m. Eastern Time except Federal Holidays.

For Weather and Climate Data and Products

Phone: 1-828-271-4800 then press "2"

Fax: 1-828-271-4876

TTY: 1-828-271-4010

Email: ncdc.orders@noaa.gov

For Satellite Data and Products

Phone: 1-828-271-4850 then press "1"

Fax: 1-828-271-4876

TTY: 1-828-271-4010

Email: ncdc.satorder@noaa.gov

NCDC's Tax ID is #520821608

Data Issues

If you have issues to report regarding the quality of NOAA data and you are a NOAA employee, you may file a report here. Non-NOAA employees can send an email to ncdc.orders@noaa.gov.

Website Issues

NCDC wishes to keep its web pages free of functionality problems (including broken links and/or missing images). To report website issues, please send an email to ncdc.webmaster@noaa.gov. When informing us of problems, however, users should be aware that filters will prevent receipt of messages with no subject line or with subject lines that appear to be spam. Be sure to also include the web address of the page that you are contacting us about.

Media Contact

If you are a member of the media interested in talking to an NCDC staff member, please contact Katy Vincent at katy.vincent@noaa.gov.

