



DOC > NOAA > NESDIS >
NCDC

Search Field:

Search NCDC

NCDC Frequently Asked Questions

Current Events

NOAA Climate Services

NCDC News
Climate FAQs
About NCDC

Data & Products

Climate Data Online(NEW)

Most Popular
Subscriptions
Order Status
Online Store
Model Data
Products and Services
Find a Station

Search by Map

Data Access tools
CD-ROM/DVD Products
Climate Inventories
Metadata
Help/FAQ

Climate Info

Regional Climate Centers
Research
Monitoring
Extremes
Global Hazards

The NOAA National Climatic Data Center (NCDC) is one of the world's premier centers for archiving, processing, and researching climate data. As such, NCDC fields hundreds of questions regarding the data: how it is processed, how it can be accessed, and what it means. If you have a question about NCDC, climate data, or climatology, an answer may reside in our "Frequently Asked Questions" (FAQs) below. If not, please feel free to [contact us](#). We're adding questions to this site all the time.

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Global Climate Change Questions

The Greenhouse Effect

Climate Change Data

How reliable is the U.S. surface temperature record?

The U.S. surface temperature record is very reliable. All data undergoes strict quality assurance, and a recent study shows no evidence that variable station exposure artificially inflates the trend in U.S. temperatures. [[Read More](#)]

What datasets are used in calculating the average global temperature anomaly?

Land surface temperatures come from the Global Historical Climate Network (GHCN) and sea surface temperatures are from the extended reconstructed sea surface temperature (ERSST) analysis. [[Read More](#)]

What version of the ERSST analysis is currently being used?

ERSST version 3b is currently in use. [[Read More](#)]

When was ERSST version 3b first implemented?

Transition to version 3b of ERSST occurred in November 2008, and the [NCDC Climate Monitoring Branch](#) first used the merged land and ocean dataset operationally with the July 2009 [State of the Climate Report](#).

How is the average global temperature anomaly time series calculated?

The global temperature anomaly time series is calculated from a blended land and ocean dataset that consists of gridded monthly average temperature anomalies. [[Read More](#)]

Why do some of the products use different reference periods?

Most anomalies products reference a 1971–2000 base period because this is the most recent "normals" period and is a period with a great deal of historical data coverage. Some products reference the 20th Century average for conceptual simplicity. The choice of base reference periods has no bearing on the between year changes nor on the trend. [[Read More](#)]

How often and when is the global average temperature dataset updated?

The dataset is updated every month. Data for a month are typically made available by the 15th of the following month.

What is the difference between the gridded dataset and the index values?

Index values are averages of the gridded dataset values. [[Read More](#)]

Is it appropriate to use normals for predictive purposes?

Normals are often used as a base value against which temperatures in subsequent years may be compared. [[Read More](#)]

What is the difference between Cooperative and First–Order stations?

Each are weather observation networks maintained by the Federal Government. First–Order stations are generally found at larger airports, while cooperative stations are operated largely by volunteer citizen observers. [[Read More](#)]

If measuring equipment changes at a site, does that change the records? Does it change the normals?

Unless identified and accounted for, changes in instrumentation can affect the observational record and any values, such as normals, that are calculated from them. [[Read More](#)]

How are degree day normals computed?

Beginning with the 1971–2000 normals, degree day normals were calculated using a spline fit approach. [[Read More](#)]

Climate Definitions

Briefings on Climate Change

Answers to questions related to climate data access at NCDC may be found on [NCDC's data access and ordering FAQ page](#).

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<http://www.ncdc.noaa.gov/faqs/index.html>

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Please see the [NCDC Contact Page](#) if you have questions or comments.