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NOAA's National Climatic Data Center

News Highlights

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Protecting the Past
Revealing the Future

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The National Climatic Data Center's News Highlights is a quarterly publication for NCDC data users. Address comments or article suggestions to:
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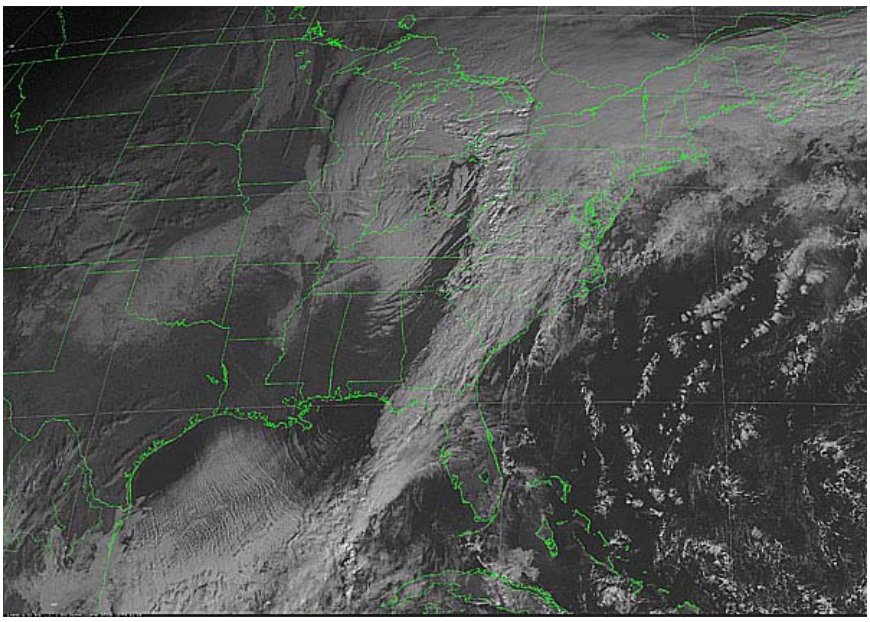
The Director's Corner

Greetings to our Data Users:

"Historical GOES data now available on-line": Over 200 TB of GOES historical data covering the period 1978 to 2003 have been ingested into a single access system. For the first time, NOAA is making the full record of GOES data available online via the web at www.class.noaa.gov. New software scheduled for release next spring will give users access to the earliest GOES data, going back to 1978. NCDC users have found Internet access to this data very useful, as evident in the large volumes of data already retrieved using FTP and HTTP. New users must register in at the website provided above. Also, users can set-up subscriptions with NCDC to have their data automatically delivered to them on a near real-time basis. All data ordered via electronic delivery is available without charge. Service costs apply only if data are ordered on hard media such as DVDs or tapes. Many data users from around the world have been using NOAA GOES data for a variety of applications. For example: NOAA's Environmental Visualization Lab uses the new access system exclusively to process NOAA satellite images for the media. Specifically, over 8,000 files were downloaded from the NOAA archive to create the 2005 Atlantic Hurricane Season Movie for NOAA's National Hurricane Center's year end media conference last year. A more recent example, in which the GOES data were used relates to the Blizzard of '93, for the National Geographic. The movie will be used in an upcoming television documentary on the storm.

NOAA GOES data also serves a number of foreign users. For example, the Institute of Physics at the University of Oldenburg in Germany is doing research in the field of Energy Meteorology, which is a major research field within the Energy and Semiconductor Research Laboratory (EHF) of the institute. Energy meteorology is a new discipline interfacing renewable energy research and atmospheric physics and provides methods and data for the characterization of the fluctuating power output from solar and wind energy systems. The institute ordered a month's worth of retrospective GOES data to do some testing. Since the initial tests were successful the institute is subscribing to near real-time GOES-West and GOES-East scientific data from CLASS for further research and analyses.

Below is an example of a GOES image ordered from CLASS. This image was taken by GOES-12 on December 1, 2006, at 1445 UTC (09:45 EST) and depicts a large cyclonic system over the eastern United States.



Dr. Thomas R. Karl

Product News and Updates

Local Climatological Data (LCD) Product for Climate Reference Network (CRN) Sites: LCD forms are now available for CRN sites, via NCDC's LCD service listed below (http://cdo.ncdc.noaa.gov/ulcdsw/ULCD?prior=N). The incoming CRN data are now converted to the Integrated Surface Data (ISD) format, loaded into the relational database model, and available as an LCD form in the same format as Automated Surface Observing System (ASOS) and other sites. NOAA customers now have the ability to view CRN data for any selected time period, in the same format as other hourly reporting stations.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration

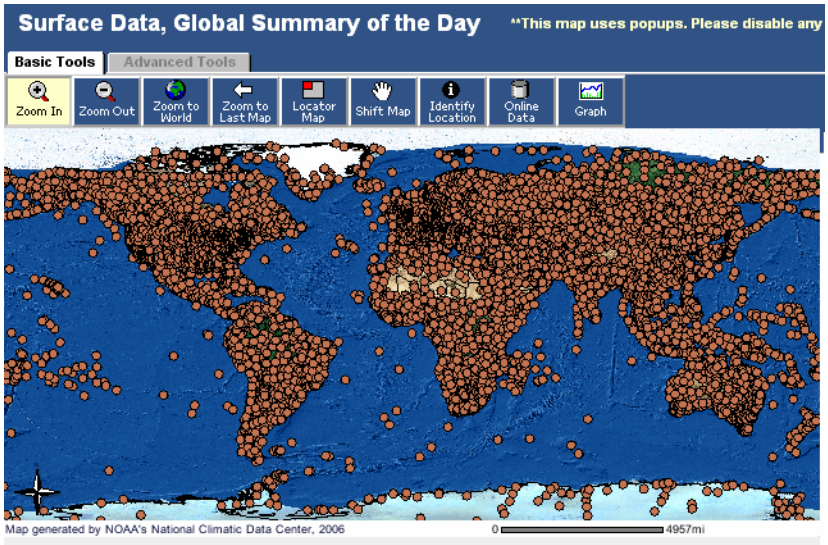
QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA (final)
HOURLY OBSERVATIONS TABLE
NC MOUNTAIN HORTICULTURAL CORPS RES. CENTER (53878)
ASHEVILLE 13 S , NC
(11/2006)

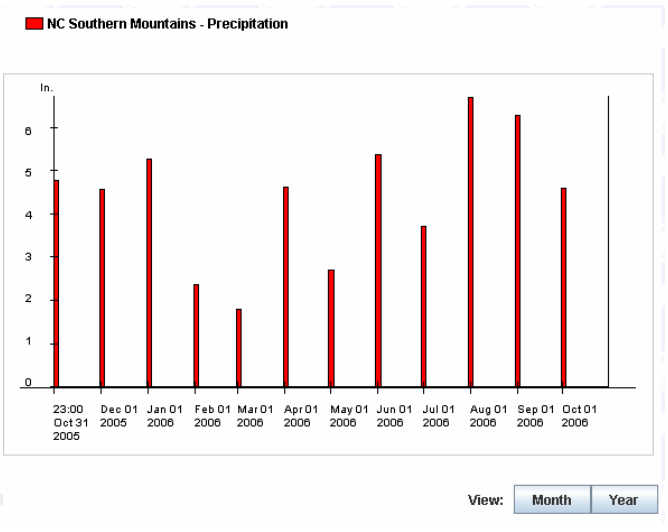
National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801

Elevation: 2100 ft. above sea level
Latitude: 35.419
Longitude: -82.557
Data Version: VER2

Date	Time	Station Type	Sky Conditions	Visibility (SM)	Weather Type	Dry Bulb Temp (F)	Dry Bulb Temp (C)	Wet Bulb Temp (F)	Wet Bulb Temp (C)	Dew Point Temp (F)	Dew Point Temp (C)	Rel Humd %	Wind Speed (MPH)	Wind Dir	Wind Gusts (MPH)	Station Pressure	Press Tend	Sea Level Pressure	Report Type	Precip. Total
16	0400	15	M	M		58	14.6	M	M	M	M	M	10	M		M		M	CRN15	0.17
16	0500	15	M	M		58	14.6	M	M	M	M	M	7	M		M		M	CRN15	0.04
16	0600	15	M	M		57	13.7	M	M	M	M	M	6	M		M		M	CRN15	
16	0700	15	M	M		56	13.1	M	M	M	M	M	9	M		M		M	CRN15	
16	0800	15	M	M		53	11.9	M	M	M	M	M	10	M		M		M	CRN15	
16	0900	15	M	M		53	11.4	M	M	M	M	M	12	M		M		M	CRN15	
16	1000	15	M	M		52	11.2	M	M	M	M	M	13	M		M		M	CRN15	
16	1100	15	M	M		52	11.0	M	M	M	M	M	15	M		M		M	CRN15	
16	1200	15	M	M		49	9.5	M	M	M	M	M	13	M		M		M	CRN15	
16	1300	15	M	M		49	9.6	M	M	M	M	M	10	M		M		M	CRN15	
16	1400	15	M	M		49	9.7	M	M	M	M	M	13	M		M		M	CRN15	
16	1500	15	M	M		47	8.1	M	M	M	M	M	15	M		M		M	CRN15	
16	1600	15	M	M		46	7.1	M	M	M	M	M	13	M		M		M	CRN15	
16	1700	15	M	M		44	6.6	M	M	M	M	M	11	M		M		M	CRN15	
16	1800	15	M	M		43	6.3	M	M	M	M	M	10	M		M		M	CRN15	
16	1900	15	M	M		44	6.4	M	M	M	M	M	6	M		M		M	CRN15	
16	2000	15	M	M		43	6.1	M	M	M	M	M	3	M		M		M	CRN15	
16	2100	15	M	M		42	5.8	M	M	M	M	M	4	M		M		M	CRN15	
16	2200	15	M	M		42	5.8	M	M	M	M	M	3	M		M		M	CRN15	
16	2300	15	M	M		42	5.8	M	M	M	M	M	2	M		M		M	CRN15	
17	0000	15	M	M		41	5.1	M	M	M	M	M	4	M		M		M	CRN15	
17	0100	15	M	M		41	4.8	M	M	M	M	M	3	M		M		M	CRN15	
17	0200	15	M	M		39	3.8	M	M	M	M	M	5	M		M		M	CRN15	

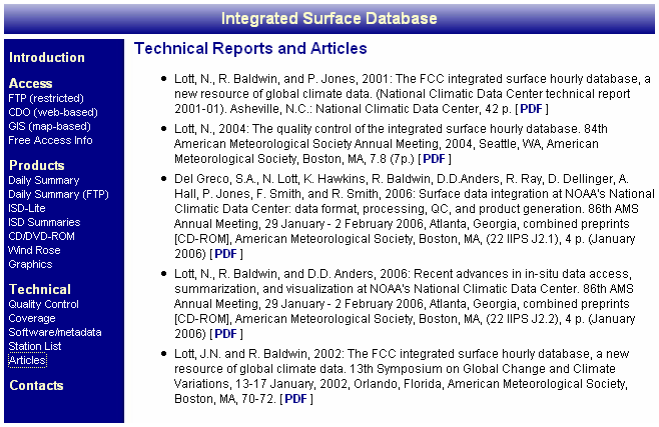
New Services Available in Climate Data On-line (CDO) System: Two new services are now available in CDO: 1) US Climate Divisional data and 2) Global Summary of Day (GSOD). The climate divisional data (1895-present) also include state and national averages, with temperature, precipitation, four drought indices, and heating/cooling degree days as the parameters. GSOD (a product of the Integrated Surface Data--ISD) includes 13 parameters such as max/min temperature, daily precipitation, and snow depth. Though these datasets/products have been online via CLIMVIS and FTP access for many years, they were using an old architecture which has now been replaced. Data graphing and GIS-based access are also included: http://cdo.ncdc.noaa.gov/CDO/dataproduct; http://gis.ncdc.noaa.gov.

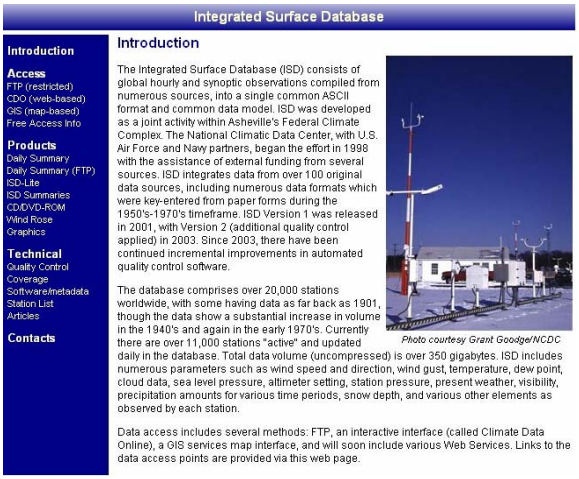




Integrated Surface Data (ISD) Web Site: NCDC has completed a new web system regarding ISD, to tie together information about the database and its quality control, data access, ISD-derived products (e.g., global summary of day, ISD summaries, "ISD-Lite," wind rose), CD/DVD products, and various articles/papers. ISD consists of global surface observations compiled from numerous sources, into a single consistent format and common data model. It was developed as a joint activity within Asheville's Federal Climate Complex (NCDC, with U.S. Air Force and Navy partners), with the assistance of external funding from several sources. ISD Version 1 was released in 2001, with Version 2 (additional quality control applied) in 2003. Since 2003, there have been continued incremental improvements in automated quality control software.

ISD integrates data from over 100 original data sources, including numerous data formats which were key-entered from paper forms prior to the digital data era. The database comprises over 20,000 stations worldwide, with some having data as far back as 1901, though the data show a substantial increase in volume in the 1940s and again in the early 1970s. Currently there are over 11,000 stations "active" and updated daily in the database. The URL: http://www.ncdc.noaa.gov/oa/climate/isd/index.php.





Updated Report on Hurricane Katrina: At the one-year anniversary of Hurricane Katrina, NCDC updated its 27-page report (PDF document) -- "Hurricane Katrina, A Climatological Perspective." The report includes updated information on storm impacts (damages, fatalities), storm surge estimates, and the history of the storm. The overall U.S. death toll for the 2005 hurricane season now exceeds 2000. The URL is: http://www.ncdc.noaa.gov/oa/reports/tech-report-200501z.pdf.
In conjunction with this, the billion dollar weather disasters report (http://www.ncdc.noaa.gov/oa/reports/billionz.html) has also been updated with the latest damage/fatality figures available for the 2004-2005 hurricanes.

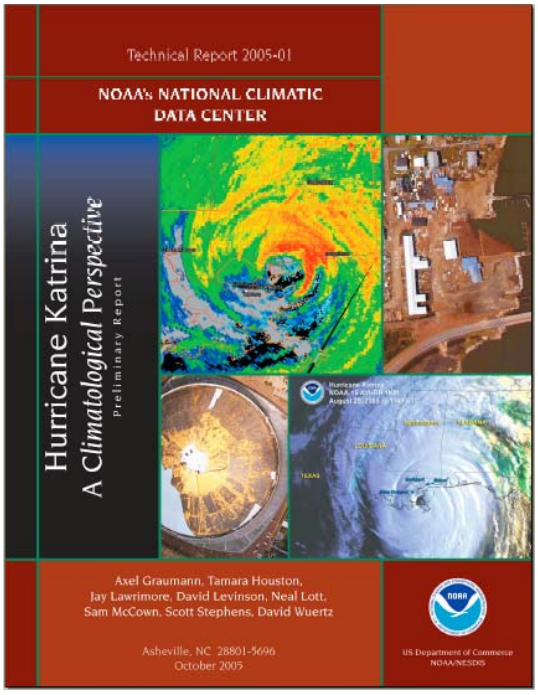


Figure 12. NOAA-18 (Polar Orbiter) Image of Katrina.

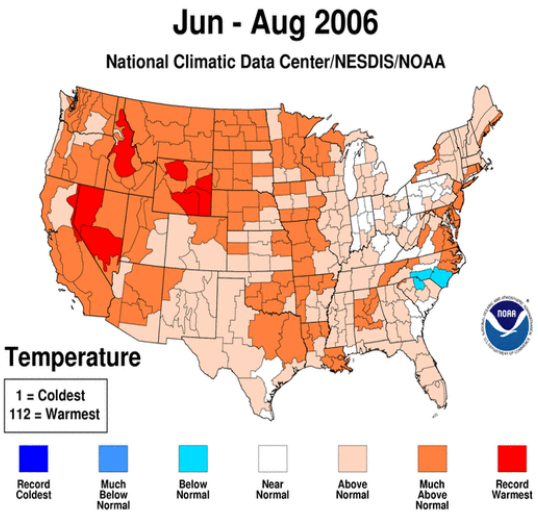
Annual State of the Climate Report: NCDC staff released the 2006 on-line Annual State of the Climate report on December 14, 2006, in association with a NOAA press release. This issue date was timed to coincide with the release of the World Meteorological Organization (WMO) Annual Statement on the Global Climate. NCDC supported WMO's efforts through the development of a global significant events map for 2006, which WMO included in their release.

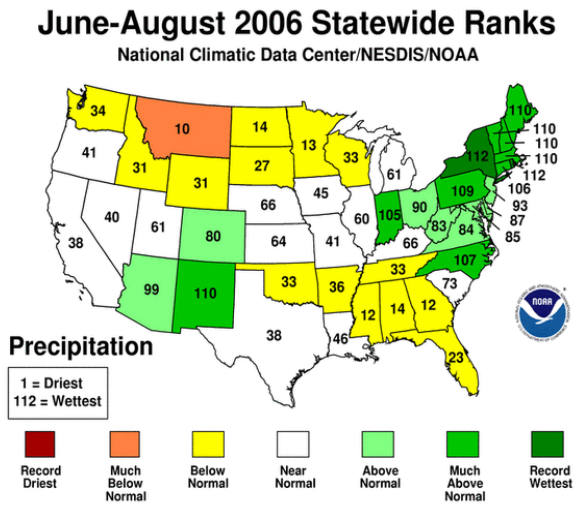
State of the Climate: The summer (Jun-Aug) of 2006 was the second warmest summer on record since reliable instrumental observations began in 1895. The nationally-averaged summer temperature of 74.5 deg. F fell just shy of the 74.7 deg. F set in the summer of 1936. The year-to-date (Jan-Aug) however, was the warmest such period in the 1895-2006 record. The Jan-Aug nationally-averaged temperature of 57.6 deg. F eclipsed the previous record of 57.2 deg. F from Jan-Aug, 1936. The record warm year-to-date for 2006 has been influenced by a record warm January and April, and the record-setting heat waves of June and July. Furthermore, the past 12 months have been the warmest September-August period in the historical record for the US.

Regionally, Nevada, and indeed the Western region observed their warmest summer on record in 2006. For the year-to-date, ND, SD, MO, OK and TX all had their warmest Jan-Aug on record, while 8 other states were second warmest on record, and a total of 34 states experienced year-to-date temperatures that were among their ten warmest such periods on record. No state was near or cooler-than-normal for the period.

Additionally, although year-to-date precipitation for the contiguous US has been drier-than-average, and summer precipitation was near normal when averaged over the lower 48, regionally the Northeast had record summer rainfall, with NY and RI setting record summer precipitation totals. Additionally, despite drier than normal summer conditions across much of the western US, New Mexico experienced its wettest August on record. For the year-to-date, the Northeast has had above- to much-above-normal precipitation as a result of several strong storm events since January. The past 12 month period has been record wet in NY, CT, RI, MA, VT, NH, and ME.

More info is available at: http://www.ncdc.noaa.gov/oa/climate/research/2006/aug/national.html and graphics for August, the summer, and the year-to-date are available from the links near the beginning of that page (in the table).





NCDC to Investigate Optimal Climate Normals: NCDC is already preparing for the rollout of the 1981-2010 climate normals, which should be available to the public sometime in 2011. A climate normal is defined as the 30-year average value of a particular quantity – such as daily high temperature. The World Meteorological Organization (WMO) mandates that normals be computed every 30 years – the last 30-year update covered the 1961-1990 period. Nevertheless, many countries, including the United States, compute official climate normals every ten years. In a way, this is our own version of a census. NCDC produces a suite of normals products; for more information on our 1971-2000 normals products and previous decadal updates, please visit our US Normals website:
http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html.

Climate normals are very important factors in commercial, industrial, agricultural, and transportation planning. For example, energy consumption is closely related to air temperature values. Many utility companies even include temperature data on customer bills. Some regulatory agencies base the rates they allow electric and gas utilities to charge their customers on NCDC's official climate normals data. Since climate normals data are so vital for so many planning aspects, it is critical to have climate normals data that are as up-to-date as possible. To help facilitate the public's need for current climate normals data, NCDC offers users the ability to compute "dynamic normals" directly from our website. Dynamic normals are normals that can be computed over a user-determined time period. In other words, they can be computed for time periods other than 30 years long with versatile start and end years. In particular, users can select the most recent data available. For example, users can choose to compute a current 40-year normal of mean December high temperature, for the 1966-2005 time period, for Boston, MA. In addition, users could compare the 1976-2005 normal to the 1971-2000 normal for a particular station, in essence creating an updated normal. NCDC maintains a dynamic normals tool that can be accessed here: http://cdo.ncdc.noaa.gov/CDO/dataproduct. Select "Dynamic Normals Products" and follow the subsequent instructions.

NCDC is in the preliminary stages of developing a suite of various climate normal products. We are considering how we might integrate both climate model projections and statistical methods. We are also considering a Climate Normals user workshop to discuss these issues in hopes of accommodating stakeholder needs. At present, we are scheduled to release the next generation of climate normals in 2011, but during the coming year we will be developing specific plans for how we will approach this next set of climate