

Documentation of Databases, Summaries, and Analyses of Texas Meteorological Data

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The table below presents descriptions of identified databases for meteorological data in Texas, with emphasis on identifying data available on the Internet. Other than the NEXRAD data presented as part of the Texas Weather Connection, all other data sources represent gaging stations. In addition to the databases below, some Texas River Authorities and Municipal Water Districts present current rainfall data for selected reservoirs.

Presented below the table are titles, descriptions, and hyperlinks to reports that summarize or analyze Texas meteorological data.

Please notify Raymond Slade, Jr. (rs40@txstate.edu) of any errors or omissions found in this report.

Table of Characteristics for Databases of Texas Meteorological Data

Statewide Databases				
Data Name, <i>Source</i> , and link	Data frequency and Data Type	Data Coverage Area	Period of Record	Cost and Other Information
<p>Climate Data <i>National Atmospheric and Data Center, National Climatic Data Center</i></p> <p>Home page: http://www.ncdc.noaa.gov/oa/ncdc.html.</p> <p>Direct access to data tables; http://hurricane.ncdc.noaa.gov/CDO/cdo</p> <p>GIS-based map interface: http://cdo.ncdc.noaa.gov/CDO/mapproduct</p>	<p>15-minute, hourly, daily, monthly, annual data Barometric pressure Dewpoint Heating/cooling degree days Pan evaporation Precipitation Relative humidity Sky cover (cloudiness) Solar radiation Temperature, mean, maximum, and minimum Visibility Wind speed and direction</p>	2140 gages	<p>Varies by site</p> <p>Site Inventory: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?WWDI~getstate~USA</p> <p>or,</p> <p>Identify sites by regions http://www.ncdc.noaa.gov/oa/climate/stationlocator.html</p>	<p>Cost for most data.</p> <p>Local and regional summaries and statistical analyses also available for many data types at http://www5.ncdc.noaa.gov/cgi-bin/script/webcat.pl?action=ALL</p>
<p>Unedited local Climatological Data <i>National Climatic Data Center</i> http://cdo.ncdc.noaa.gov/ulcd/ULCD</p>	<p>Hourly and daily data Same data types as listed above</p>	About 85 gages	<p>Begin: not before 1996 End: Up-to-date within 2 months</p>	<p>Free for college domain computers</p> <p>Cost for others</p>

Statewide Databases

Data Name, <i>Source</i> , and link	Data frequency and Data Type	Data Coverage Area	Period of Record	Cost and Other Information
Global Summary of the Day <i>National Climatic Data Center</i> http://www.ncdc.noaa.gov/cgi-bin/res40.pl?page=climvisgsod.html	Monthly data Same data types as listed above	About 145 gages	Begin: January 1994 End: Up-to-date within 1 month	Free Under “Select the graph type”, select the option “Display one Parameter for a Specified Time Frame” to access the maximum available record. Digital text file available for download below graph of data
Preliminary Record of Climatological Observations <i>National Climatic Data Center</i> http://cdo.ncdc.noaa.gov/dlyp/DLYP	Monthly data Evaporation Precipitation Soil temperature Temperature	Many hundreds of Texas gages	Begin: One month to a few years ago End: Up-to-date	Free Available in ASCII or Web format
Preliminary Scanned Climatological Observations <i>National Climatic Data Center</i> http://www7.ncdc.noaa.gov/IPS/getcoopstates.html	Monthly data Precipitation Temperature	Many hundreds of Texas gages	Begin: One month to many years ago End: Up-to-date within 2-3 months	Free Scanned forms—data not available in digital format
Texas Weather Connection, NEXRAD Data <i>Texas A&M University</i> Major Cities: http://webgis.tamu.edu/nexradcity.aspx Latitude and longitude: http://webgis.tamu.edu/nexradmap.aspx	Hourly, daily, and monthly data Precipitation	For cities: Several hundred Texas cities For latitude and longitude retrieval: 4 kilometer by 4 kilometer grids	Begin: 2000 End: Up-to-date with about a week	Free Data units in millimeters View or download
Texas Weather Connection, Airport Data <i>Texas A&M University</i> http://webgis.tamu.edu/metar.aspx	Daily data Dewpoint Precipitation Relative humidity Solar radiation Temperature, mean, min., and max. Wind speed and direction	Airport weather stations--about 100 gages	Begin: 1999 End: Up-to-date within about 3 months	Free Data units in English or metric. View or download text data or graph

Statewide Databases				
Data Name, <i>Source</i> , and link	Data frequency and Data Type	Data Coverage Area	Period of Record	Cost and Other Information
Monthly Precipitation and Lake Evaporation <i>Texas Water Development Board</i> http://hyper20.twdb.state.tx.us/Evaporation/evap.html	Monthly data, statistics, and graphs Evaporation Precipitation	One degree quadrangles for Texas	Precipitation data: 1940 to 2004 Evaporation data: 1954 to 2002	Free Annual-gross lake surface evaporation
Texas Precipitation Data/Maps <i>Natural Resources Conservation Service</i> http://www.ncgc.nrcs.usda.gov/products/datasets/climate/data/precipitation-state/tx.html	Long-term annual-mean and monthly-mean data Precipitation	Statewide	Maps and metadata for 1961-1990 period	Arc/Info 7.2 export files (<i>annual precipitation</i>); Shape file of average annual precipitation (<i>precipitation only</i>); ASCII data (<i>annual: Arc header, GRASS header</i>)
Regional Databases				
Texas Weather Connection, Plains Weather Network <i>Texas A&M University</i> North Plains: http://webgis.tamu.edu/plains.aspx Central Plains: http://webgis.tamu.edu/central-disabled.aspx	Daily data Dewpoint Precipitation Relative humidity Solar radiation Temperature, average, min., and max. Wind speed and direction	16 gages on Texas North Plains	Begin: March 26, 1995 End: Up-to-date	Free Data units in English or metric. View or download text data or graph
		Texas Central Plains	Unknown Web site under construction	
Climate Data for Central Texas Reservoirs <i>US Army Corps of Engineers, Fort Worth, District</i> http://www1.swf-wc.usace.army.mil/hydrologic2_data.htm#lake_hydro	Daily data Evaporation Precipitation Temperature	30 reservoirs in Central Texas	Begin: varies End: Up-to-date	Free Tabular text or graphic plot

Regional Databases

Data Name, <i>Source</i> , and link	Data frequency and Data Type	Data Coverage Area	Period of Record	Cost and Other Information
Climate Data for North Texas <i>US Army Corps of Engineers, Tulsa District</i> http://www.swt-wc.usace.army.mil/stations.htm	Hourly data Precipitation Solar Radians Temperature Wind direction and speed	About 17 gages in Red River and Canadian River basins	Latest two days	Free
LCRA Current Weather Data <i>Lower Colorado River Authority</i> http://www.lcra.org/water/index.html	1, 3, 6 hour and daily precipitation Daily max. and min. relative humidity Daily mean, max., and min. temperature	About 200 gages in the Colorado River basin	Up-to-date data for current day	Free Map of gage sites at http://hydromet.lcra.org/index2.shtml
LCRA Historic Weather Data <i>Lower Colorado River Authority</i> http://hydromet.lcra.org/hx	15-minute, 1 hour, and daily data Precipitation Relative humidity Temperature Wind speed and direction		Begin: Varies, back to 1991 End: Up-to-date	
LCRA Recent Weather Data Lower Colorado River Authority http://hydromet.lcra.org/text_index.html	15-minute data Precipitation Relative humidity Temperature		Most recent two weeks	
Edwards Aquifer Precipitation Data <i>Edwards Aquifer Authority</i> http://www.edwardsaquifer.org/pages/data.htm	Monthly Precipitation	56 gages in Atascosa, Bexar, Caldwell, Comal, Guadalupe, Hays, Medina, and Uvalde Counties	Begin 1991 End: About 1 year lag time	Data published in annual hydrogeologic reports in PDF format
Rio Grande Precipitation Data <i>International Boundary and Water Commission</i> http://www.ibwc.state.gov/wad/rtdata.htm	15-minute data Precipitation	Several dozen gages in the Rio Grande basin	Most recent about two weeks	Click on station number in link to obtain data Data presented in millimeters

City and County Databases

Data Name, <i>Source</i> , and link	Data frequency and Data Type	Data Coverage Area	Period of Record	Cost and Other Information
USGS Precipitation Data <i>US Geological Survey</i> http://tx.usgs.gov	Daily Precipitation	Austin, Dallas, Fort Worth, Houston, and San Antonio areas	Varies	Free Data in reports found at http://pubs.er.usgs.gov/pubs/index.jsp?view=adv . Type the city name in the “search text in title” box to find the appropriate data
Harris County Precipitation Data <i>Harris County Office of Homeland Security and Emergency Management</i> http://www.hcoem.org:3084/flood_alert_system.htm	Most recent 15 and 30 minutes, 1, 3, 6, 12, and 24 hours. Daily data for past 366 days prior to any chosen date Precipitation Unknown data frequency for Temperature Wind speed and direction	About 170 gages in Harris County	Varies--period of record presented at http://www.hcoem.org:3084/station_ids.html Real-time temperature and wind data available at http://www.hcoem.org/txdot/ Click on box in upper left corner to get to data.	Free All precipitation data available on graphs. Monthly and annual data available as text
Austin Precipitation Data <i>City of Austin</i> http://162.89.0.110/	Most recent 15 and 30 minutes, 1, 3, 6, 12, and 24 hours. 15-minute data available for any periods Precipitation	About 95 gages in the Austin area	1985 to current	Free Available as text and graphs
Dallas Precipitation Data <i>City of Dallas</i> http://www.ci.dallas.tx.us/sts/html/fc.html	Most recent 15 and 30 minutes, 1, 2, 6, and 12 hours, and, 1, 7, and 30 days. Hourly and daily data available for any periods Precipitation	About 60 gages in Dallas area	1991 to current	Free Available as text and graphs. Current barometric pressure, temperature, humidity, and wind available for 3 sites

Documentation of Summaries and Analyses of Texas Meteorological Data

Report authors are designated by the following abbreviations:

NOAA (National Oceanographic and Atmospheric Administration), Texas Water Development Board (TWDB),
and U.S. Geological Survey (USGS)

Summaries

Climatic Atlas of Texas, TWDB

<http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/LimitedPublications/LP192.pdf>.

The Climate and Physiography of Texas, TWDB

<http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWReports/Individual%20Report%20htm%20files/report53.asp>

1971-2000 Climate Normals for the United States, NOAA

http://www5.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl?directive=prod_select&subnum=

Storm events database, NWS (begins January 1950)

<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms>

Hourly Precipitation Data Rainfall Event Statistics, NOAA

<http://hurricane.ncdc.noaa.gov/cgi-bin/HPD/HPDStats.pl>

Extreme Precipitation Depths for Areas and Durations of Texas, USGS

<http://pubs.usgs.gov/wri/wri984099/>

Analyses

Atlas for depth-duration frequency of precipitation annual maxima in Texas, USGS (2004)

<http://pubs.usgs.gov/sir/2004/5041/>

Precipitation frequency for Texas, NOAA (1961, 1964, and 1977)

http://hdsc.nws.noaa.gov/hdsc/pfds/other/tx_pfds.html

Probable Maximum Precipitation for Texas, NOAA

<http://www.nws.noaa.gov/oh/hdsc/studies/pmp.html>

Atlas for Interoccurrence Intervals for Thresholds of Daily Precipitation, USGS (Analyzes the time period between successive rainfall events)

<http://pubs.usgs.gov/wri/wri03-4281/>

Areal-Reduction Factors for Reduction of 1-Day Design Storm in Texas, USGS

<http://pubs.usgs.gov/wri/wri99-4267/>

Empirical, Dimensionless, Cumulative-Rainfall Hyetographs for Small Texas Watersheds, USGS

<http://pubs.usgs.gov/sir/2004/5075/>

Rainfall Frequencies of the United States, NOAA

<http://www.ncdc.noaa.gov/oa/documentlibrary/rainfall.html>

Sources for Additional Data, Summaries, and Analyses

Office of the State Climatologist

<http://www.met.tamu.edu/osc/>

Free summaries of meteorologic data, NOAA

<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwAW~MP~F>

WMO Resolution 40 NOAA Policy

The following data and products may have conditions placed on their international commercial use. They can be used within the U.S. or for non-commercial international activities without restriction. The non-U.S. data cannot be redistributed for commercial purposes. Re-distribution of these data by others must provide this same notification. A log of IP addresses accessing these data and products will be maintained and may be made available to data providers.

For details, please consult:

**[http://www.wmo.ch/web/www/DPS/RA%20VI%20WG%20Commercialization%202001.
htm](http://www.wmo.ch/web/www/DPS/RA%20VI%20WG%20Commercialization%202001.htm)**

For additional details/information concerning which data are listed as "additional," please see the MS Word document [WMO Resolution 40](#). If you have questions about NCDC's implementation of this resolution, please contact NCDC at ncdc.info@noaa.gov, 828-271-4800.

<http://lwf.ncdc.noaa.gov/cgi-bin/res40.pl?page=climvisgsod.html>

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