

# Atmospheric Radiation Measurement Program External Data Sets - Availability and Holdings

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The Atmospheric Radiation Measurement (ARM) Program uses the term “external data” to refer to data not generated within the ARM program but which augments the ARM data. Data sets designated as ARM “external data” are collected by the ARM External Data Center (XDC) and converted to either netCDF or HDF. Copies of these data files are transferred to the ARM Archive and to the ARM Experiment Center for distribution. (See <http://arm3.das.bnl.gov/sisg/ext.html>)

The data management of the external data is similar to that of the ARM data. The only exception is that for certain external data sets, the provider has specified that the data be provided only to members of the ARM Science Team and not be made available to the general scientific community. The decisions about which external data sets are to be acquired are made by the ARM Program Office, with input provided by the ARM Science Team.<sup>(a)</sup>

<b>Platform</b>	<b>Description</b>	<b>Temporal coverage</b>
twpecmwfX1.c1	Surface and diagnostic fields, supplementary fields and advanced upper air fields. Covers latitude: 20N to -20S, longitude: -80W to 110E. FM92 GRIB format.	Beginning 10/1/96
twpncdcsurfX1.a1	Daily mean temperature, dew point, sea level and station pressure, visibility and wind speed; maximum sustained wind speed, wind gust, temperature; minimum temperature, precipitation. ASCII	Beginning 1/96
twpavhriiX1.a1	Initially Global Area Coverage (GAC) data are being provided by University of Miami, Rosenstiel School of Marine and Atmospheric Science (RSMAS); eventually 1-km resolution data will be provided by a local receiving station.	GAC data beginning 11/22/96
twpgmsX1.a1	The data fields will be calibrated, remapped to a standard earth projection, and the files reformatted in HDF.	Beginning 10/5/96

(a) This research was performed under the auspices of the United States Department of Energy under Contract No. DE-AC02-76H00016.

<b>Table 2. Southern Great Plains satellite data</b>		
<b>Platform name</b>	<b>Description</b>	<b>Temporal coverage</b>
sgpgoes7rad8X1.a1 sgpgoes7radX1.a1 sgpgoes7visX1.a1 sgpgoes7irX1.a1 sgpgoes7ir8X1.a1	Includes both calibrated radiance fields as well as brightness temperatures for the infrared channels. Fields of the solar and satellite zenith angles, and sun-satellite azimuth angles are also included. HDF format.	7/17/94 - 4/6/95
sgpgoes8visX1.a1 sgpgoes8X1.a1	sgpgoes8visX1 contains the 1-km visible channel data and ancillary fields, and sgpgoes8X1 contains all five channels at 4-m resolution, together with the ancillary fields. The ancillary fields are the solar and satellite zenith angles and sun-satellite azimuth angles. HDF format.	Beginning 12/16/94
sgpavhrr9X1.a1 sgpavhrr9radX1.a1 sgpavhrr12X1.a1 sgpavhrr12radX1.a1 sgpavhrr14X1.a1 sgpavhrr14radX1.a1	Includes both calibrated radiance fields as well as brightness temperatures for the infrared channels. Fields of the solar and satellite zenith angles and sun-satellite azimuth angles are also included. HDF format.	Beginning 7/1/94
sgpgoes7minnisX1.c1 sgpgoes7minnis_acfX1.c1 sgpgoes8minnisX1.c1 sgpgoes8minnis_acfX1.c1	Cloud products derived from Geostationary Operational Environmental Satellite (GOES) data by Pat Minnis' group at NASA Langley. netCDF or ASCII format. The two products cover a 20x28, 0.5° grid and a 3x3, 0.3° grid.	4/94, 10/94, 10/95

<b>Platform</b>	<b>Description</b>	<b>Temporal coverage</b>
sgpgoeswaterX1.c1	Soundings of dew point and temperature over the Southern Great Plains (SGP) Cloud and Radiation Testbed (CART) site derived from GOES8 soundings by Wayne Feltz of the University of Wisconsin, Cooperative Institute of Mesoscale Meteorological Studies/Space Science and Engineering Center (CIMSS/SSEC). ASCII format; to be converted to netCDF.	Beginning 8/1/96
sgpnwsupaX1.a1	Soundings are twice daily. Data are only for mandatory levels. EBUFR format; may be converted to netCDF.	April 1993 - October 1996
sgp06snwsupaX1.a1	High resolution (6 sec) quality assured data provided by Verification of the Origins of Rotation in Tornadoes Experiment/ GEWEX Continental-scale International Project (VORTEX/GCIP) (Steve Williams at National Center for Atmospheric Research). There are 12 sites covering the latitudes 31 to 40, longitudes -107 to -91. ASCII format; to be converted to netCDF.	4/1-4/29/94, 5/1-8/31/94, 4/1 - 9/30/95. Also expected continuously for the 5-year period beginning in October 1995
sgp06wpdnmmtsX1.a1 sgp60wpdnwndsX1.b1	Wind Profiler Demonstration Network Moments for the seven stations surrounding the Southern Great Plains site and winds for all stations. netCDF format.	Beginning 2/5/94 for mmts Beginning 1/21/94 for winds
sgp60wpdnrassX1.b1	Hourly temperatures for the Wind Profiler Demonstration Network stations that have rass. netCDF format.	Beginning 2/95
sgp30wpdngps.c1	The Forecast Systems Laboratory (FSL) provides 30-minute averages of precipitable water vapor derived from Global Positioning Systems (GPS). The current stations are Hillsboro, Kansas Haskell, Oklahoma Haviland, Kansas Lamont, Oklahoma Neodesha, Kansas Platteville, Colorado Purcell, Oklahoma Vici, Oklahoma White Sands, New Mexico There are 48 netCDF files per day.	netCDF data began on 12/20/95. ASCII files for 9/26/95 - 11/01/95

<b>Table 4. Southern Great Plains model data</b>		
<b>Platform name</b>	<b>Description</b>	<b>Temporal coverage</b>
sgpeta90X1.c1	National Centers for Environmental Prediction (NCEP) Model - available in GRIB. netCDF version soon to be released	Raw data beginning 6/16/93
sgpallruc60X1.c0 sgpruc60X1.c1	The Rapid Update Cycle (RUC) is a 3-hour frequency analysis/forecast data analysis system provided by the NCEP	Raw data beginning 05/08/96 netCDF data beginning 2/08/97
sgpecmwfX1.c1	These products are provided by Christian Jakob of the European Centre for Medium Range Weather Forecasting (ECMWF) - more detail is available on the XDC Web page. Available in ASCII, netCDF version planned.	4/1-4/30/96 5/1-5/10/96 7/15-8/5/96 4/17-5/7/95 7/17-8/14/95 9/22-11/1/95

<b>Table 5. Southern Great Plains surface measurements</b>		
<b>Platform name</b>	<b>Description</b>	<b>Temporal coverage</b>
sgpabrfcpcpX1.c1	Arkansas-Red Basin River Forecast Center (ABRFC) precipitation products on a 4-km grid. netCDF format	Beginning 6/24/94, hr 15
sgp1440ksumesoX1.a1 sgp60ksumesoX1.a1	QA'ed data from 15 surface meteorology stations in Kansas. netCDF format.	Beginning 1/1/93
sgp60nwssurfX1.a1	National Weather Service (NWS) hourly surface meteorology measurements. netCDF format.	1/93 - 6/96
sgp60ismX1.c1	Combines hourly averages of 5 surface networks: ARM surface meteorological observation surface (SMOS), Kansas Mesonet, NWS Surface Stations, Oklahoma Mesonet and Wind Profiler Demonstration Network (WPDN) surface stations. netCDF format.	
sgp05okmX1.a1 sgp15okmX1.a1	Surface meteorology measurements from 111 stations in Oklahoma. netCDF format.	Beginning 1994
sgp60wpdnsurfX1.b1	Surface meteorology measurements at a subset of WPDN stations. netCDF format.	Beginning 1/21/94