



# SMEX03 Soil Climate Analysis Network (SCAN): Georgia, Version 1

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## USER GUIDE

### How to Cite These Data

As a condition of using these data, you must include a citation:

Bosch, D. and G. Schaefer. 2006. *SMEX03 Soil Climate Analysis Network (SCAN): Georgia, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. <https://doi.org/10.5067/TJLY2U5L0D4G>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT [NSIDC@NSIDC.ORG](mailto:NSIDC@NSIDC.ORG)

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/NSIDC-0294>



National Snow and Ice Data Center

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# 1 DETAILED DATA DESCRIPTION

## 1.1 Format

Data are provided as tab-delimited ASCII. Two types of files are available: hourly and daily. Table 1 displays the station identification number, the station name, and the station location of the SCAN station included in this data set. Please visit <http://www.wcc.nrcs.usda.gov/scan> for more information on SCAN stations.

Table 1. SMEX03 Georgia SCAN Station Specifications

SCAN Station No.	Station Name	Location	Coordinates (Latitude and Longitude)
2027	Little River	Tift County, GA	31.51° N, 83.56° W

Table 2 lists the column headings and definitions in the hourly file, and Table 3 lists the column headings and definitions in the daily file. Please visit <http://www.wcc.nrcs.usda.gov/scan/sensors.html> for more information on these parameters.

**Note:** In both files, missing data values are denoted by either -99.9 or -99.99.

Table 2. Column Headings and Definitions for the Hourly File

Column	Description	Units
ATHA6	Average air temperature	degrees Celsius
ATHC6	Current air temperature	degrees Celsius
ATHN6	Minimum air temperature	degrees Celsius
ATHX6	Maximum air temperature	degrees Celsius
c1rdc	Current soil dielectric constant an two inch depth	no units
c1sal	Current soil salinity at two inch depth	grams per liter
c1smv	Current soil moisture at two inch depth	percent water by volume
c1tmp	Current soil temperature at two inch depth	degrees Celsius
c2rdc	Current soil real dielectric constant at four inch depth	no units
c2sal	Current soil salinity at four inch depth	grams per liter
c2smv	Current soil moisture at four inch depth	percent water by volume
c2tmp	Current soil temperature at four inch depth	degrees Celsius
c3rdc	Current soil real dielectric constant at eight inch depth	no units
c3sal	Current soil salinity at eight inch depth	grams per liter
c3smv	Current soil moisture at eight inch depth	percent water by volume
c3tmp	Current soil temperature at eight inch depth	degrees Celsius

Column	Description	Units
c4rdc	Current real dielectric constant at 20 inch depth	no units
c4sal	Current soil salinity at 20 inch depth	grams per liter
c4smv	Current soil moisture at 20 inch depth	percent water by volume
c4tmp	Current soil temperature at 20 inch depth	degrees Celsius
c5rdc	Current soil real dielectric constant at 40 inch depth	no units
c5sal	Current soil salinity at 40 inch depth	grams per liter
c5smv	Current soil moisture at 40 inch depth	percent water by volume
c5tmp	Current soil temperature at 40 inch depth	degrees Celsius
Day	Day of measurement	
Hour	Hour of measurement	Eastern Standard Time (EST)
Month	Month of measurement	
PCPIN	Cumulative total precipitation	inches
RH1C1	Current relative humidity	percent
RH1N1	Minimum relative humidity	percent
RH1X1	Maximum relative humidity	percent
SRHA	Average solar radiation	watts per square meter
WDHA	Average wind direction	degrees from true north
WSPHA	Average wind speed	meters per hour
WSPHX	Maximum wind speed	meters per hour
Year	Year of measurement	

Table 3. Column Headings and Definitions for the Daily File

Column	Description	Units
ATA6	Average air temperature	degrees Celsius
ATN6	Minimum air temperature	degrees Celsius
ATX6	Maximum air temperature	degrees Celsius
Date	Date of measurement	
ENHUM	Average relative humidity in enclosure	percent
Month	Month of measurement	
WDDA	Average wind direction	degrees from true north
WSPDA	Average wind speed	meters per hour
Year	Year of measurement	

## 1.2 File and Directory Structure

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Table 4 lists the files contained in this data set.

Table 4. Files Contained in this Data Set

File Name	Description	File Size
Scan2027_Hourly.txt	This is a tab-delimited ASCII text file of the data in hourly measurements.	265 KB
Scan2027_Daily.txt	This is a tab-delimited ASCII text file of the data in daily averages.	2.7 KB

## 1.3 Volume

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The total data set volume is 268 KB.

## 1.4 Spatial Coverage

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Southernmost Latitude: 31.51° N

Northernmost Latitude: 31.51° N

Westernmost Longitude: 83.56° W

Easternmost Longitude: 83.56° W

## 1.5 Temporal Coverage

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Data were collected between 1 June 2003 and 31 July 2003.

### 1.5.1 Temporal Resolution

Hourly measurements are averages computed as the sum of all measurements taken during an hour divided by the number of measurements taken during that hour. Daily values are averages computed as the sum of all hourly measurements taken during a day divided by the number of hourly measurements taken during that day.

## 1.6 Parameter or Variable

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### 1.6.1 Parameter Description

Table 5 describes the parameters in the hourly file.

Table 5. Parameters in Hourly File

Parameter	Description
Precipitation	Current value
Air temperature	Maximum, minimum, average, and current values
Relative humidity	Maximum, minimum, average, and current values
Wind speed	Maximum and average values
Wind direction	Averages
Solar radiation	Averages
Soil salinity	Current values at 2, 4, 8, 20, and 40 inch ground depths
Soil temperature	Current values at 2, 4, 8, 20, and 40 inch ground depths
Soil moisture as percent water by volume	Current values at 2, 4, 8, 20, and 40 inch ground depths
Soil real dielectric constant	Current values at 2, 4, 8, 20, and 40 inch ground depths

Table 6 describes the parameters in the daily file.

Table 6. Parameters in Daily File

Parameter	Description
Temperature	Daily maximum, minimum, and average values
Wind speed	Daily average
Wind direction	Daily average
Enclosure relative humidity	Current value

## 1.6.2 Sample Data Record

The following sample shows the first four records from the hourly file Scan2027\_Hourly.txt. The first six and last six columns are displayed.

Table 7. Sample Data Record from Hourly File Scan2027\_Hourly.txt

Year	Month	Day	Hour	PCPIN	ATHC6	...	c4sal	c4rdc	c5smv	c5tmp	c5sal	c5rdc
2003	6	1	0	33.29	25.81	...	0.1	7.1	26.6	23.92	0.13	14.81
2003	6	1	1	33.29	25.62	...	0.1	7.1	26.36	23.92	0.14	14.66
2003	6	1	2	33.29	25.15	...	0.09	7.24	26.36	23.92	0.14	14.66
2003	6	1	3	33.29	24.22	...	0.1	7.15	26.6	23.92	0.13	14.81

The following sample shows the first four records from the daily file Scan2027\_Daily.txt. All nine columns are displayed.

Table 8. Sample Data Record from Daily File Scan2027\_Daily.txt

Year	Month	Date	ATX6	ATN6	ATA6	WSPDA	WDDA	ENHUM
2003	6	1	33.14	18.44	26.67	5.1	233.85	59.37
2003	6	2	30.6	17.97	25.37	4.98	326.59	62.1
2003	6	3	32.19	15.73	24.86	2.64	101.36	61
2003	6	4	26.08	20.76	23.54	4.72	180.04	65.4

## 2 SOFTWARE AND TOOLS

Data files are viewable with a browser or text editor.

## 3 DATA ACQUISITION AND PROCESSING

### 3.1 Sensor or Instrument Description

Each SCAN station houses multiple sensors that automatically record data. These data are uploaded at regular intervals to the NRCS Data Processing Center, Portland, Oregon, USA. Table 9 describes the sensors housed in the SCAN station and the parameters they measure.

Table 9. SCAN Station Sensors and Measured Parameters

Sensor Name	Parameters Measured	Method of Measurement
Tipping bucket rain gauge	Tipping bucket rain gauge	Tipping bucket rain gauge
Precipitation	Precipitation	Precipitation
Cumulative inches of precipitation are recorded.	Cumulative inches of precipitation are recorded.	Cumulative inches of precipitation are recorded.
Shielded thermistor	Shielded thermistor	Shielded thermistor
Air temperature	Air temperature	Air temperature
The instrument is raised six feet from the surface. Current temperature and the previous hour's maximum, minimum, and average temperatures are recorded.	The instrument is raised six feet from the surface. Current temperature and the previous hour's maximum, minimum, and average temperatures are recorded.	The instrument is raised six feet from the surface. Current temperature and the previous hour's maximum, minimum, and average temperatures are recorded.

## 4 REFERENCES AND RELATED PUBLICATIONS

Please see the [AMSR-E site](#) to access data.

## 5 CONTACTS AND ACKNOWLEDGMENTS

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### **Acknowledgements:**

We would like to acknowledge the USDA Natural Resources Conservation Service (NRCS) <http://www.nrcs.usda.gov/>.

## 6 DOCUMENT INFORMATION

### 6.1 Publication Date

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June 2006

### 6.2 Date Last Updated

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13 April 2021