



# CLASIC07 Soil Texture Data, 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:

Colliander, A. 2015. *CLASIC07 Soil Texture Data, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. <https://doi.org/10.5067/YG89EC2TS7VT>. [Date Accessed].

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

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/CL07ST>



National Snow and Ice Data Center

# TABLE OF CONTENTS

1	DETAILED DATA DESCRIPTION.....	2
1.1	Format .....	2
1.2	File and Directory Structure.....	2
1.3	File Naming Convention .....	2
1.4	File Size.....	2
1.5	Spatial Coverage.....	3
1.6	Spatial Resolution.....	3
1.7	Projection.....	3
1.8	Temporal Coverage and Resolution.....	3
1.9	Parameter or Variable .....	3
1.9.1	Parameter Range.....	3
2	SOFTWARE AND TOOLS .....	3
3	DATA ACQUISITION AND PROCESSING.....	4
3.1	Sensor or Instrument Description .....	4
4	CONTACTS AND ACKNOWLEDGMENTS .....	4
4.1	Acknowledgements .....	4
5	DOCUMENT INFORMATION.....	4
5.1	Publication Date .....	4
5.2	Date Last Updated.....	4

# 1 DETAILED DATA DESCRIPTION

This data set contains soil texture data obtained for the Cloud and Land Surface Interaction Campaign 2007 (CLASIC07). The original data were extracted from a multi-layer soil characteristics database for the conterminous United States called CONUS-Soil and generated for the regional study area. Data are representative of the conditions present in the regional study area during the general timeline of the CLASIC07 campaign.

## 1.1 Format

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Data are provided in binary files called ENVI FST, which indicates it is an Environment for Visualizing Images "dbFast" data file. An associated Extensible Markup Language (XML) metadata file is also provided for each data file.

The binary files are arranged as follows:

Number of columns: 331

Number of rows: 157

Number of bits: 64 (double)

Number of bands: 4

Pixel Size: 30 arcsec

Band 1: Clay fraction

Band 2: Sand fraction

Band 3: Latitude

Band 4: Longitude

## 1.2 File and Directory Structure

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Data files are available at:

[https://n5eil01u.ecs.nsidc.org/SMAP\\_VAL/CL07ST.001/](https://n5eil01u.ecs.nsidc.org/SMAP_VAL/CL07ST.001/)

## 1.3 File Naming Convention

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The binary data file is `CL07ST_clay_sand_lat_lon_sgpsubarea.bin`, and the header file is `CL07ST_clay_sand_lat_lon_sgpsubarea.hdr`.

## 1.4 File Size

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The data file is approximately 1.6 MB.

## 1.5 Spatial Coverage

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Southernmost Latitude: 34.70°N

Northernmost Latitude: 36.00°N

Westernmost Longitude: 98.80°W

Easternmost Longitude: 96.05°W

## 1.6 Spatial Resolution

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30 arcsec

## 1.7 Projection

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World Geodetic System 1984 (WGS84)

## 1.8 Temporal Coverage and Resolution

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These data are representative of the conditions to be expected in the US regional study area during the approximate timeline of the [CLASIC07](#) campaign, July 2007. Thus, temporal coverage and resolution varies by parameter. Data were obtained from a long-term database of soil texture for the conterminous United States called CONUS-Soil. Visit the [Soil Information for Environmental Modeling and Ecosystem Management](#) for more information.

## 1.9 Parameter or Variable

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Clay fraction (%): The fraction of clay in the top 5 cm of the soil.

Sand fraction (%): The fraction of sand in the top 5 cm of the soil.

### 1.9.1 Parameter Range

Valid parameter values are as follows:

Clay fraction: 0-100 %

Sand fraction: 0-100 %

## 2 SOFTWARE AND TOOLS

Various software packages can be used to read the data, such as ArcView, Environment for Visualizing Images (ENVI), or Interactive Data Language (IDL).

## 3 DATA ACQUISITION AND PROCESSING

### 3.1 Sensor or Instrument Description

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The source of the data is a multi-layer soil characteristics data set (CONUS-Soil) based on the USDA State Soil Geographic Database (STATSGO) for application to a wide range of SVAT, climate, hydrology, and other environmental models developed by Earth System Science Center in the College of Earth and Mineral Sciences at The Pennsylvania State University.

A 30-arcsec latitude-longitude grid data set was obtained from [http://www.soilinfo.psu.edu/index.cgi?soil\\_data&conus&data\\_cov&fract&datasets&geo](http://www.soilinfo.psu.edu/index.cgi?soil_data&conus&data_cov&fract&datasets&geo), and a subset was extracted for the CLASIC campaign domain for the top 5 cm layer of soil.

## 4 CONTACTS AND ACKNOWLEDGMENTS

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### 4.1 Acknowledgements

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Southern Great Plains soil data was retrieved from an online database hosted by the Earth System Science Center in the College of Earth and Mineral Sciences at The Pennsylvania State University, at <http://www.soilinfo.psu.edu>. The data are from CONUS-Soil, a multi-layer soil characteristics data set for the conterminous United States.

## 5 DOCUMENT INFORMATION

### 5.1 Publication Date

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June 2015

### 5.2 Date Last Updated

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