



SnowEx17 Community Snow Depth Probe Measurements, Version 1

USER GUIDE

How to Cite These Data

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

Brucker, L., C. Hiemstra, H. Marshall, and K. Elder. 2018. *SnowEx17 Community Snow Depth Probe Measurements, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. <https://doi.org/10.5067/WKC6VFMT7JTF>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG.

FOR CURRENT INFORMATION, VISIT https://nsidc.org/data/SNEX17_SD



National Snow and Ice Data Center

TABLE OF CONTENTS

1	DATA DESCRIPTION	2
1.1	Parameters	2
1.2	File Information.....	2
1.2.1	Format.....	2
1.2.2	File Contents.....	2
1.2.3	Naming Convention	3
1.2.4	File Size	3
1.3	Spatial Information.....	3
1.3.1	Coverage	3
1.3.2	Resolution.....	4
1.3.3	Geolocation.....	4
1.4	Temporal Information	4
1.4.1	Coverage	4
2	DATA ACQUISITION AND PROCESSING.....	5
2.1	Quality, Errors, and Limitations	5
3	RELATED DATA SETS.....	5
4	CONTACTS AND ACKNOWLEDGMENTS	5
5	DOCUMENT INFORMATION.....	5
5.1	Publication Date	5
5.2	Date Last Updated.....	5

1 DATA DESCRIPTION

1.1 Parameters

Snow Depth

1.2 File Information

1.2.1 Format

Data files are provided in Comma-Separated Values (CSV) format. CSV files can be accessed using software that reads ASCII text.

1.2.2 File Contents

Snow depths were obtained along 128 transects at Grand Mesa (GM) and 104 at Senator Beck Basin (SBB), using either a standard 3-m snow depth probe or a 1.2-m GPS-equipped MagnaProbe which automatically records a GPS position with each snow depth measurement. Standard probe measurement locations were interpolated as follows: (1) transect end points were established and surveyed prior to the snow season; (2) during the field campaign, handheld GPS reference points were acquired along each transect (available in a separate file); (3) transect end points were adjusted based on differential GPS measurements recorded during the summer of 2017.

Three files are available for transects measured with a standard probe and two for those obtained via MagnaProbe. The following table describes each file type:

Table 1. File Types and Contents

File Type	Contents
Snow depth transect	Site location (GM or SBB) and transect site ID, acquisition date, position (UTM), distance along transect (m), snow depth (cm).
Reference Points (standard probe only)	Site location (GM or SBB) and transect site ID, acquisition date, reference point positions (UTM), distance along transect (m), spacing between reference points (m), number of snow depth measurements between reference points, snow depth measurement spacing (m).
Comments	Site location (GM or SBB) and transect site ID, acquisition date, location (UTM), operator comments.

1.2.3 Naming Convention

Data files utilize the following naming convention:

SnowEx17_SD_[location]_transect_[probe]_[yyyymmdd]_[transect site ID]_[file type]_v[nn].csv

Examples:

SnowEx17_SD_GM_transect_20170225_095_SN_comments_v01.csv

SnowEx17_SD_GM_transect_20170225_095_SN_reference_points_v01.csv

SnowEx17_SD_GM_transect_20170225_095_SN_v01.csv

SnowEx17_SD_SBB_transect_MP_20170217_L34_NS_comments_v01.csv

SnowEx17_SD_SBB_transect_MP_20170217_L34_NS_v01.csv

Table 2. File Naming Convention Variables

Variable	Description
SnowEx17_SD	Short name for SnowEx17 Community Snow Depth Probe Measurements
location	Grand Mesa (GM) or Senator Beck Basin (SBB) transect
probe	MP = MagnaProbe. Absent = standard probe.
yyyymmdd	Acquisition date
transect site ID	Can vary in length and include underscores.
file type	Comments, reference_points, or absent (snow depth)
nn	Version number

1.2.4 File Size

Files range in size from approximately 1 KB to 80 KB.

1.3 Spatial Information

1.3.1 Coverage

Grand Mesa

Northernmost Latitude: 39.1° N

Southernmost Latitude: 39.0° N

Easternmost Longitude: 107.8° W

Westernmost Longitude: 108.2° W

Senator Beck Basin

Northernmost Latitude: 38.0° N

Southernmost Latitude: 37.8° N

Easternmost Longitude: 107.65 ° W

Westernmost Longitude: 107.8 ° W

1.3.2 Resolution

Snow depth measurements are spaced roughly 3 m apart.

1.3.3 Geolocation

The following tables provide information for geolocating this data set

Table 3. Geolocation Details

Geographic coordinate system	WGS 84
Projected coordinate system	WGS 84 / UTM zone 13N
Longitude of true origin	-105 (13N)
Latitude of true origin	0
Scale factor at longitude of true origin	0.9996
Datum	WGS 1984
Ellipsoid/spheroid	WGS 84
Units	Meters
False easting	500000
False northing	0
EPSG code	32613 (13N)
PROJ4 string	+proj=utm +zone=13 +datum=WGS84 +units=m +no_defs
Reference	https://epsg.io/32613

1.4 Temporal Information

1.4.1 Coverage

Data were obtained between 6 February and 25 February 2017.

2 DATA ACQUISITION AND PROCESSING

2.1 Quality, Errors, and Limitations

Measurements were hand-written in field notebooks and transcribed to Excel files by a transcription company. Excel files were visually inspected and transcription errors were manually corrected. Interpolated positions were visually inspected for completeness and accuracy. Users should exercise caution with respect to measurement locations, especially under canopy.

3 RELATED DATA SETS

[SnowEx Data at NSIDC](#)

4 CONTACTS AND ACKNOWLEDGMENTS

Ludovic Brucker

NASA Goddard Space Flight Center

Greenbelt, MD 20771

5 DOCUMENT INFORMATION

5.1 Publication Date

23 May 2018

5.2 Date Last Updated

02 October 2018