

Station_Soil_Moisture_SAGES

File Geodatabase Table

Thumbnail Not Available

Tags

soil moisture, SAGES, real dielectric constant, environment, SMAPVEX12, calibration, soil temperature, precipitation, geoscientificInformation

Summary

This table was generated for use in analysis and validation associated with the SMAPVEX12 (Soil Moisture Active-Passive Validation Experiment 2012) project.

Description

This table presents data recorded at hourly intervals during the course of the SMAPVEX12 field campaign between June 7 and July 19, 2012 at eight permanent soil moisture stations operated by AAFC. Data include recorded and calibrated soil moisture, real dielectric constant, soil temperature, and total precipitation.

Applying Bellingham's Calibration Equations on SAGES Data during SMAPVEX12

STEP 1: The soil textural class for all SAGES sites were obtained from the experiment conducted at Saskatchewan and report by B.D. Walker. These are:

MB-1: Loamy Sandy (all depths)

MB-2: Clay Loam (top 5 cm), Sandy Loam (all other depths)

MB-3: Clay Loam (top 20 cm), Silty Loam (50 cm), Sandy Loam (100cm)

MB-4: Clay Loam (top 5 cm), Clay (all other depths)

MB-5: Loamy Sandy (all depths)

MB-6: Clay (all depths)

MB-8: Loamy Sandy (all depths)

MB-9: Loamy Sandy (all depths)

Data at MB-7 site were too scanty to use.

Bellingham Suggested Equations:

http://www.stevenswater.com/catalog/products/soil_sensors/datasheet/The%20Stevens%20Hydra%20Probe%20Inorganic%20Soil%20Calibrations.pdf

Specific Site Observations:

MB-4: At the surface and 5cm depth, the RDC values (about 3.0 – 4.0) recorded by the probes were very low. Thus, the Bellingham equation used returned some negative values. This is not unexpected because dry soils typically have RDC values between 3 and 5.

MB-5: Greater than 50% soil moisture content was obtained at 20, 50 and 100 cm depths. This is not expected in a Loamy Sandy soil. Even at saturation, the soil moisture content should not exceed 50%.

MB-6: The suitability of Bellingham's clay calibration equation at RDC values greater than 44.5 has been questioned. Thus, the use of the equation gave soil moisture values greater than 0.70 especially at the 50 cm depth.

MB-8: Soil moisture content between 0.63 and 0.74 were obtained at the 20 cm depth. This is not expected in a Loamy Sandy soil. Even at saturation, the soil moisture content is not expected to exceed 50%. The RDC values obtained were very high (> 50).

Credits

Grant Wiseman Senior Geomatics Scientist – Scientifique principal en géomatique Agriculture and Agri-Food Canada – Agriculture et Agroalimentaire Canada Telephone - Téléphone: 204-984-4080 Cellular - Cellulaire: 204-293-6074 Facsimile - Télécopieur: 204-983-2178 200-303 Main Street, Winnipeg, MB R3C 3G7 grant.wiseman@agr.gc.ca

Use limitations

All SMAPVEX12 data (except those already on public domain servers) will be placed on the University of Sherbrooke site. Access will be limited by password that will be provided to principle investigators and co-investigators listed below. It will be up to the principle investigators and co-investigators to ensure that staff, graduate students and post docs respect the terms of the agreement on usage and distribution. Access to the website will be restricted until July 1, 2013 for preliminary research and quality control. After July 1, 2013 all data will be transferred to a SMAP DAAC. Principle Investigators Heather McNairn, Agriculture and Agri-Food Canada Tom Jackson, USDA, ARS Hydrology and Remote Sensing Laboratory Co-Investigators Aaron Berg, University of Guelph Amine Merzouki, Agriculture and Agri-Food Canada Andreas Colliander, JPL Anne Walker, Environment Canada Brenda Toth, Environment Canada/MS/CHAL Catherine Champagne, Agriculture and Agri-Food Canada Craig Smith, Environment Canada Dara Entekhabi, MIT Eni Njoku, JPL Grant Wiseman, Agriculture and Agri-Food Canada Jarrett Powers, Agriculture and Agri-Food Canada Jiali Shang, Agriculture and Agri-Food Canada John Fitzmaurice, Agriculture and Agri-Food Canada Mahta Moghaddam, University Southern California Mike Cosh, USDA, ARS Hydrology and Remote Sensing Laboratory Narendra Das, JPL Paul Bullock, University of Manitoba Peggy O'Neill, NASA GSFC Ramata Magagi, University of Sherbrooke Rotimi Ojo, University of Manitoba Sab Kim, JPL Stéphane Bélair, Environment Canada - NWP and Data Assimilation Alicia Joseph, NASA GSFC Erika Podest, JPL John Kimball, University of Montana Kalifa Goïta, University of Sherbrooke Marco Carrera, Environment Canada, Meteorological Research Division Steven Chan, JPL Vanessa Escobar, NASA GSFC

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE environment, geoscientificInformation

* CONTENT TYPE Downloadable Data

THEME KEYWORDS environment, geoscientificInformation

THESAURUS ►

TITLE ISO 19115 Topic Categories

Hide Thesaurus ▲

THEME KEYWORDS soil moisture, MAFRI, real dielectric constant, SMAPVEX12, calibration, soil temperature, precipitation

Hide Topics and Keywords ▲

Citation ►

* TITLE Station_Soil_Moisture_SAGES

PRESENTATION FORMATS digital document
FGDC GEOSPATIAL PRESENTATION FORMAT tabular digital data

[Hide Citation ▲](#)

Resource Details ►

DATASET LANGUAGES English (CANADA)

SPATIAL REPRESENTATION TYPE * text table

* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.5.4400

CREDITS

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Télécopieur: 204-983-2178 200-303 Main Street, Winnipeg, MB R3C 3G7
grant.wiseman@agr.gc.ca

ARCGIS ITEM PROPERTIES

* NAME Station_Soil_Moisture_SAGES

* LOCATION

file:///\\mbwinnfs106\gis\data8\projects\land\soil\SMAPVEX12\data\Kurt\SMAPVEX_MAST
ER.gdb

* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME Grant Wiseman

ORGANIZATION'S NAME Agriculture and Agri-Food Canada – Agriculture et Agroalimentaire
Canada

CONTACT'S POSITION Senior Geomatics Scientist – Scientifique principal en géomatique

CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

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TYPE

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POSTAL CODE R3C 3G7

COUNTRY CA

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E-MAIL ADDRESS grant.wiseman@agr.gc.ca

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY as needed

[Hide Resource Maintenance ▲](#)

Resource Constraints ►

CONSTRAINTS

LIMITATIONS OF USE

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[Hide Resource Constraints ▲](#)

Distribution ►

DISTRIBUTION FORMAT

* NAME File Geodatabase Table

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [Station_Soil_Moisture_SAGES ►](#)

* TYPE Table

* ROW COUNT 8447

DEFINITION

Data recorded at eight permanent SAGES soil moisture stations during the SMAPVEX12 field campaign.

DEFINITION SOURCE

AAFC

FIELD OBJECTID ►

* ALIAS OBJECTID

* DATA TYPE OID

* WIDTH 4

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Internal feature number.

DESCRIPTION SOURCE

ESRI

DESCRIPTION OF VALUES Sequential unique whole numbers that are automatically generated.

Hide Field OBJECTID ▲

FIELD DATE_ ►

ALIAS DATE

* DATA TYPE Date

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Date of soil moisture reading.

Hide Field DATE_ ▲

FIELD TIME_ ►

ALIAS TIME

* DATA TYPE Date

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Time of soil moisture reading.

Hide Field TIME_ ▲

FIELD SAGES_ID ►

* ALIAS SAGES_ID
* DATA TYPE Integer
* WIDTH 4
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Identification number of SAGES soil moisture station.

[Hide Field SAGES_ID ▲](#)

FIELD INTERNAL_TEMP ►

* ALIAS INTERNAL_TEMP
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Internal temperature of the measuring equipment in degrees Celsius.

[Hide Field INTERNAL_TEMP ▲](#)

FIELD PRECIP_MM ►

* ALIAS PRECIP_MM
* DATA TYPE Integer
* WIDTH 4
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Total precipitation in millimetres.

[Hide Field PRECIP_MM ▲](#)

FIELD TEMP_SURFACE ►

* ALIAS TEMP_SURFACE
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Temperature in degrees Celsius, measured at the surface. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

[Hide Field TEMP_SURFACE ▲](#)

FIELD RDC_SURFACE_EC ►

* ALIAS RDC_SURFACE_EC

* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Real dielectric constant measured at the soil surface.

Hide Field RDC_SURFACE_EC ▲

FIELD SURFACE_CALIBRATED ►

* ALIAS SURFACE_CALIBRATED
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$

Clay Loam: $0.1033\sqrt{x} - 0.1768$

Sandy Loam: $0.1017\sqrt{x} - 0.1786$

Silty Loam: $0.1004\sqrt{x} - 0.1588$

Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464x^2$ - square + $0.0032414x^3$ - cube)

"

Hide Field SURFACE_CALIBRATED ▲

FIELD TEMP_05 ►

* ALIAS TEMP_05
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Temperature in degrees Celsius, measured at a depth of 5 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

Hide Field TEMP_05 ▲

FIELD RDC_05_EC ►

* ALIAS RDC_05_EC

* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Real dielectric constant measured at a depth of 5 cm.

[Hide Field RDC_05_EC ▲](#)

FIELD CALIBRATED_05 ►

* ALIAS CALIBRATED_05
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$

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Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464x^2$ - square + $0.0032414x^3$ - cube)

"

[Hide Field CALIBRATED_05 ▲](#)

FIELD TEMP_20 ►

* ALIAS TEMP_20
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Temperature in degrees Celsius, measured at a depth of 20 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

[Hide Field TEMP_20 ▲](#)

FIELD RDC_20_EC ►

* ALIAS RDC_20_EC

* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Real dielectric constant measured at a depth of 20 cm.

[Hide Field RDC_20_EC ▲](#)

FIELD CALIBRATED_20 ►

* ALIAS CALIBRATED_20
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$

Clay Loam: $0.1033\sqrt{x} - 0.1768$

Sandy Loam: $0.1017\sqrt{x} - 0.1786$

Silty Loam: $0.1004\sqrt{x} - 0.1588$

Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$)

"

[Hide Field CALIBRATED_20 ▲](#)

FIELD TEMP_50 ►

* ALIAS TEMP_50
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Temperature in degrees Celsius, measured at a depth of 50 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

[Hide Field TEMP_50 ▲](#)

FIELD RDC_50_EC ►

* ALIAS RDC_50_EC

* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Real dielectric constant measured at a depth of 50 cm.

[Hide Field RDC_50_EC ▲](#)

FIELD CALIBRATED_50 ►

* ALIAS CALIBRATED_50
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$

Clay Loam: $0.1033\sqrt{x} - 0.1768$

Sandy Loam: $0.1017\sqrt{x} - 0.1786$

Silty Loam: $0.1004\sqrt{x} - 0.1588$

Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$)

"

[Hide Field CALIBRATED_50 ▲](#)

FIELD TEMP_100 ►

* ALIAS TEMP_100
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Temperature in degrees Celsius, measured at a depth of 100 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

[Hide Field TEMP_100 ▲](#)

FIELD RDC_100_EC ►

* ALIAS RDC_100_EC

* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Real dielectric constant measured at a depth of 100 cm.

[Hide Field RDC_100_EC ▲](#)

FIELD CALIBRATED_100 ►

* ALIAS CALIBRATED_100
* DATA TYPE Double
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$

Clay Loam: $0.1033\sqrt{x} - 0.1768$

Sandy Loam: $0.1017\sqrt{x} - 0.1786$

Silty Loam: $0.1004\sqrt{x} - 0.1588$

Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$)

"

[Hide Field CALIBRATED_100 ▲](#)

[Hide Details for object Station_Soil_Moisture_SAGES ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

METADATA LANGUAGE English (CANADA)

METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset

SCOPE NAME * dataset

* LAST UPDATE 2013-01-18

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0

METADATA STYLE FGDC CSDGM Metadata

STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2013-01-18 13:54:29
LAST MODIFIED IN ARCGIS FOR THE ITEM 2013-01-18 14:36:50

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes
LAST UPDATE 2013-01-18 14:36:50

[Hide Metadata Details ▲](#)

FGDC Metadata (read-only) ▼

DETAILED DESCRIPTION

ENTITY TYPE

ENTITY TYPE LABEL Station_Soil_Moisture_SAGES

ENTITY TYPE DEFINITION

Data recorded at eight permanent SAGES soil moisture stations during the SMAPVEX12 field campaign.

ENTITY TYPE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL OBJECTID

ATTRIBUTE DEFINITION

Internal feature number.

ATTRIBUTE DEFINITION SOURCE ESRI

ATTRIBUTE DOMAIN VALUES

UNREPRESENTABLE DOMAIN

Sequential unique whole numbers that are automatically generated.

ATTRIBUTE

ATTRIBUTE LABEL DATE_

ATTRIBUTE DEFINITION

Date of soil moisture reading.

ATTRIBUTE

ATTRIBUTE LABEL TIME_

ATTRIBUTE DEFINITION

Time of soil moisture reading.

ATTRIBUTE

ATTRIBUTE LABEL SAGES_ID

ATTRIBUTE DEFINITION

Identification number of SAGES soil moisture station.

ATTRIBUTE

ATTRIBUTE LABEL INTERNAL_TEMP

ATTRIBUTE DEFINITION

Internal temperature of the measuring equipment in degrees Celsius.

ATTRIBUTE

ATTRIBUTE LABEL PRECIP_MM

ATTRIBUTE DEFINITION

Total precipitation in millimetres.

ATTRIBUTE

ATTRIBUTE LABEL TEMP_SURFACE

ATTRIBUTE DEFINITION

Temperature in degrees Celsius, measured at the surface. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

ATTRIBUTE

ATTRIBUTE LABEL RDC_SURFACE_EC

ATTRIBUTE DEFINITION

Real dielectric constant measured at the soil surface.

ATTRIBUTE

ATTRIBUTE LABEL SURFACE_CALIBRATED

ATTRIBUTE DEFINITION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$ Clay Loam: $0.1033\sqrt{x} - 0.1768$ Sandy Loam: $0.1017\sqrt{x} - 0.1786$ Silty Loam: $0.1004\sqrt{x} - 0.1588$ Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e. $-20.93 + 6.553x - 0.2464 \cdot x\text{-square} + 0.0032414 \cdot x\text{-cube}$) "

ATTRIBUTE

ATTRIBUTE LABEL TEMP_05

ATTRIBUTE DEFINITION

Temperature in degrees Celsius, measured at a depth of 5 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

ATTRIBUTE

ATTRIBUTE LABEL RDC_05_EC

ATTRIBUTE DEFINITION

Real dielectric constant measured at a depth of 5 cm.

ATTRIBUTE

ATTRIBUTE LABEL CALIBRATED_05

ATTRIBUTE DEFINITION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$ Clay Loam: $0.1033\sqrt{x} - 0.1768$ Sandy Loam: $0.1017\sqrt{x} - 0.1786$ Silty Loam: $0.1004\sqrt{x} - 0.1588$ Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e. $-20.93 + 6.553x - 0.2464 \cdot x\text{-square} + 0.0032414 \cdot x\text{-cube}$) "

ATTRIBUTE

ATTRIBUTE LABEL TEMP_20

ATTRIBUTE DEFINITION

Temperature in degrees Celsius, measured at a depth of 20 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

ATTRIBUTE

ATTRIBUTE LABEL RDC_20_EC

ATTRIBUTE DEFINITION

Real dielectric constant measured at a depth of 20 cm.

ATTRIBUTE

ATTRIBUTE LABEL CALIBRATED_20

ATTRIBUTE DEFINITION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$ Clay Loam: $0.1033\sqrt{x} - 0.1768$ Sandy Loam: $0.1017\sqrt{x} - 0.1786$ Silty Loam: $0.1004\sqrt{x} - 0.1588$ Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464 \cdot x\text{-square} + 0.0032414 \cdot x\text{-cube}$) "

ATTRIBUTE

ATTRIBUTE LABEL TEMP_50

ATTRIBUTE DEFINITION

Temperature in degrees Celsius, measured at a depth of 50 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

ATTRIBUTE

ATTRIBUTE LABEL RDC_50_EC

ATTRIBUTE DEFINITION

Real dielectric constant measured at a depth of 50 cm.

ATTRIBUTE

ATTRIBUTE LABEL CALIBRATED_50

ATTRIBUTE DEFINITION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$ Clay Loam: $0.1033\sqrt{x} - 0.1768$ Sandy Loam: $0.1017\sqrt{x} - 0.1786$ Silty Loam: $0.1004\sqrt{x} - 0.1588$ Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464 \cdot x\text{-square} + 0.0032414 \cdot x\text{-cube}$) "

ATTRIBUTE

ATTRIBUTE LABEL TEMP_100

ATTRIBUTE DEFINITION

Temperature in degrees Celsius, measured at a depth of 100 cm. Measurements were taken for two probes per soil depth, and the first value was used, except in the event of the two readings differing by greater than 1 degree Celsius. In such cases, the average of the two values was calculated.

ATTRIBUTE

ATTRIBUTE LABEL RDC_100_EC

ATTRIBUTE DEFINITION

Real dielectric constant measured at a depth of 100 cm.

ATTRIBUTE

ATTRIBUTE LABEL CALIBRATED_100

ATTRIBUTE DEFINITION

"Calibrated soil moisture at the soil surface. The following calibrations were used, depending upon clay percent content and real dielectric constant value: Loamy Sand: $0.1204\sqrt{x} - 0.2025$ Clay Loam: $0.1033\sqrt{x} - 0.1768$ Sandy Loam: $0.1017\sqrt{x} - 0.1786$ Silty Loam: $0.1004\sqrt{x} - 0.1588$ Clay: $-20.93 + 6.553x - 0.2464x^2 + 0.0032414x^3$ (i.e $-20.93 + 6.553x - 0.2464 \cdot x\text{-square} + 0.0032414 \cdot x\text{-cube}$) "

[Hide Entities and Attributes ▲](#)