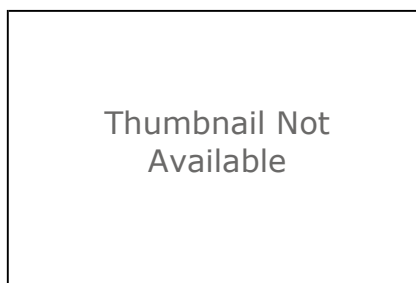


Soil_Moisture_Handheld

File Geodatabase Table



Tags

Theta, soil moisture, real dielectric constant, environment, Hydra, SMAPVEX12, calibration, geoscientificInformation

Summary

This table presents soil moisture data recorded during the course of the SMAPVEX12 field campaign between June 7 and July 19, using handheld Hydra and Theta soil moisture probes. Data include calibrated soil moisture and real dielectric constant.

Description

This table presents soil moisture data recorded during the course of the SMAPVEX12 field campaign between June 7 and July 19, using handheld Hydra and Theta soil moisture probes. Data include calibrated soil moisture and real dielectric constant.

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/MSCHAL 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 Goita, 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 Theta, soil moisture, real dielectric constant, Hydra, SMAPVEX12, calibration

[Hide Topics and Keywords ▲](#)

Citation ►

TITLE Soil_Moisture_Handheld

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

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

ARCGIS ITEM PROPERTIES

* NAME Soil_Moisture_Handheld

* LOCATION file:///\\mbwinfs106\gis\data8\projects\land\soil\SMAPVEX12
\data\Geodatabase\SMAPVEX_MASTER.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 et Agroalimentaire Canada

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

CONTACT'S ROLE point of contact

CONTACT INFORMATION ►**PHONE**

VOICE 204-984-4080

FAX 204-983-2178

ADDRESS

DELIVERY POINT 200-303 Main Street

CITY Winnipeg

ADMINISTRATIVE AREA Manitoba

POSTAL CODE R3C 3G7

COUNTRY CA

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**

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/ HAL 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

Hide Resource Constraints ▲**Geoprocessing history** ►

PROCESS

PROCESS NAME

DATE 2012-12-21 08:18:04

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CopyRows

COMMAND ISSUED

CopyRows Soil_Moisture_Handheld2 W:\data8\projects\land\soil\SMAPVEX12\data\Kurt\SMAPVEX_MASTER2.gdb\Soil_Moisture_Handheld2 #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:21:29

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Sample_Date [Sample_Dat] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:22:50

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Sample_Time [Sampe_Time] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:24:36

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Site_ID_1 "[Site_ID]" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:25:30

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Site_ID [Site_ID_1] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:27:02

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Soil_Moisture_Cal [Soil_Moist] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:28:38

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Soil_Real_Dielectric [Soil_Real_] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:29:20

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Source_1 [Source] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:30:12

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Source [Source_1] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:30:37

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Calibration [Calibratio] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:31:07

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Source_1 "[Comments]" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2012-12-21 08:31:45

TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CalculateField

COMMAND ISSUED

CalculateField Soil_Moisture_Handheld2 Comments "[Source_1]" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

DATE 2012-12-21 09:07:03

TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data Management Tools.tbx\CopyRows

COMMAND ISSUED

CopyRows W:\data8\projects\land\soil\SMAPVEX12
\data8\Kurt\SMAPVEX_MASTER2.gdb\Soil_Moisture_Handheld W:\data8
\projects\land\soil\SMAPVEX12

\data\Geodatabase\SMAPVEX_MASTER2.gdb\Soil_Moisture_Handheld #
 INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)

Distribution ►

DISTRIBUTION FORMAT

* NAME File Geodatabase Table

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [Soil_Moisture_Handheld ►](#)

* TYPE Table

* ROW COUNT 39831

DEFINITION

Soil moisture data recorded using handheld Hydra and Theta soil moisture probes.

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 [Calibration ►](#)

* ALIAS Calibration

* DATA TYPE String

* WIDTH 50

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Type of calibration applied to the measured soil moisture values.

DESCRIPTION SOURCE

AAFC

LIST OF VALUES

VALUE General

DESCRIPTION The soil moisture reading was corrected using a generic calibration equation.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE AAFC

VALUE Field Level

DESCRIPTION The soil moisture reading was corrected using a site-specific calibration equation.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE AAFC

[Hide Field Calibration ▲](#)

FIELD Sample_Time ►

* ALIAS Sample_Time

* DATA TYPE String

* WIDTH 50

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Time the soil moisture reading was taken.

DESCRIPTION SOURCE

AAFC

[Hide Field Sample_Time ▲](#)

FIELD Comments ►

* ALIAS Comments

* DATA TYPE String

* WIDTH 50

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Values greater than 60% soil moisture are flagged as "High value - organic" for forage and pasture sites and "High value - flagged" for mineral soils.

DESCRIPTION SOURCE

AAFC

[Hide Field Comments ▲](#)

FIELD Site_ID ►

* ALIAS Site_ID

* DATA TYPE String

* WIDTH 50

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Identification number of the site at which the reading was taken.

DESCRIPTION SOURCE

AAFC

[Hide Field Site_ID ▲](#)

FIELD Soil_Real_Dielectric ►

* ALIAS Soil_Real_Dielectric

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Measured soil real dielectric constant.

DESCRIPTION SOURCE

AAFC

[Hide Field Soil_Real_Dielectric ▲](#)

FIELD Source ►

* ALIAS Source

* DATA TYPE String

* WIDTH 50

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Type of soil moisture probe used to take the reading (Hydra or Theta).

DESCRIPTION SOURCE

AAFC

LIST OF VALUES

VALUE Hydra

DESCRIPTION Hydra probe soil sensor

ENUMERATED DOMAIN VALUE DEFINITION SOURCE AAFC

VALUE Theta

DESCRIPTION Theta probe soil sensor

ENUMERATED DOMAIN VALUE DEFINITION SOURCE AAFC

[Hide Field Source ▲](#)

FIELD Soil_Moisture_Cal ►

* ALIAS Soil_Moisture_Cal

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Calibrated soil moisture reading.

DESCRIPTION SOURCE

AAFC

[Hide Field Soil_Moisture_Cal ▲](#)

FIELD Sample_Date ►

* ALIAS Sample_Date

* DATA TYPE Date

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Date reading was taken.

DESCRIPTION SOURCE

AAFC

[Hide Field Sample_Date ▲](#)

[Hide Details for object Soil_Moisture_Handheld ▲](#)

[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 2012-12-21

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0
 METADATA STYLE ISO 19139 Metadata Implementation Specification
 STANDARD OR PROFILE USED TO EDIT METADATA ISO19139

CREATED IN ARCGIS FOR THE ITEM 2012-12-21 08:17:57
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2013-01-10 16:09:39

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes
 LAST UPDATE 2013-01-10 16:09:39

[Hide Metadata Details ▲](#)

FGDC Metadata (read-only) ►

Entities and Attributes ►

DETAILED DESCRIPTION

ENTITY TYPE

ENTITY TYPE LABEL Soil_Moisture_Handheld
 ENTITY TYPE DEFINITION
 Soil moisture data recorded using handheld Hydra and Theta soil moisture probes.
 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 Calibration
 ATTRIBUTE DEFINITION
 Type of calibration applied to the measured soil moisture values.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE DOMAIN VALUES

ENUMERATED DOMAIN

ENUMERATED DOMAIN VALUE General

ENUMERATED DOMAIN VALUE DEFINITION

The soil moisture reading was corrected using a generic calibration equation.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE

AAFC

ENUMERATED DOMAIN

ENUMERATED DOMAIN VALUE Field Level

ENUMERATED DOMAIN VALUE DEFINITION

The soil moisture reading was corrected using a site-specific calibration equation.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE

AAFC

ATTRIBUTE

ATTRIBUTE LABEL Sample_Time

ATTRIBUTE DEFINITION

Time the soil moisture reading was taken.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL Comments

ATTRIBUTE DEFINITION

Values greater than 60% soil moisture are flagged as "High value - organic" for forage and pasture sites and "High value - flagged" for mineral soils.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL Site_ID

ATTRIBUTE DEFINITION

Identification number of the site at which the reading was taken.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL Soil_Real_Dielectric

ATTRIBUTE DEFINITION

Measured soil real dielectric constant.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL Source

ATTRIBUTE DEFINITION

Type of soil moisture probe used to take the reading (Hydra or Theta).

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE DOMAIN VALUES

ENUMERATED DOMAIN

ENUMERATED DOMAIN VALUE Hydra

ENUMERATED DOMAIN VALUE DEFINITION

Hydra probe soil sensor

ENUMERATED DOMAIN VALUE DEFINITION SOURCE

AAFC

ENUMERATED DOMAIN

ENUMERATED DOMAIN VALUE Theta

ENUMERATED DOMAIN VALUE DEFINITION

Theta probe soil sensor

ENUMERATED DOMAIN VALUE DEFINITION SOURCE

AAFC

ATTRIBUTE

ATTRIBUTE LABEL Soil_Moisture_Cal

ATTRIBUTE DEFINITION

Calibrated soil moisture reading.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL Sample_Date

ATTRIBUTE DEFINITION

Date reading was taken.

ATTRIBUTE DEFINITION SOURCE AAFC

Hide Entities and Attributes ▲