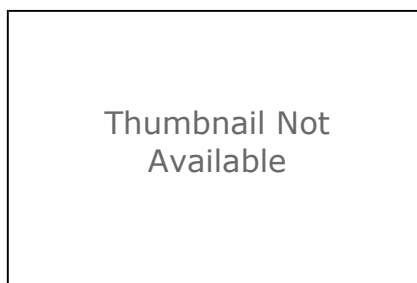


Soil_Roughness

File Geodatabase Table



Tags

SMAPVEX12, soil roughness, PALS, UAVSAR, RADARSAT-2

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 contains soil roughness measurements taken at two locations within each SMAPVEX field in the look directions of RADARSAT-2 (descending mode), UAVSAR, and PALS. Surface roughness was measured using a digital camera and a 1-m long pin profilometer consisting of 200 needles spaced from an interval of 5 mm. Three end-to-end images were captured to create a 3-m profile. For each SAR sensor and at each location, the photographs of the three separate profiles were joined into a single profile using a matlab application, post data collection, to provide the two roughness parameters: the standard deviation of surface heights (or the RMS heights) and the correlation lengths.

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

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE Soil_Roughness

PRESENTATION FORMATS * digital table

[Hide Citation ▲](#)

Resource Details ►

DATASET LANGUAGES * English (CANADA)

DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

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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Canada

ARCGIS ITEM PROPERTIES

* NAME Soil_Roughness

* LOCATION file:///\\mbwinnfs106\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 and Agri-Food Canada – Agriculture et Agroalimentaire Canada
 CONTACT'S POSITION Senior Geomatics Scientist – Scientifique principal en géomatique
 CONTACT'S ROLE point of contact

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ADMINISTRATIVE AREA Manitoba

POSTAL CODE R3C 3G7

COUNTRY Canada

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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Co-Investigators

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Amine Merzouki, Agriculture and Agri-Food Canada

Andreas Colliander, JPL

Anne Walker, Environment Canada

Brenda Toth, Environment Canada/MS/HAL

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 Kalifa Goita, University of Sherbrooke
 Marco Carrera, Environment Canada, Meteorological Research Division
 Steven Chan, JPL
 Vanessa Escobar, NASA GSFC

[Hide Resource Constraints ▲](#)

Data Quality ►

SCOPE OF QUALITY INFORMATION ►

RESOURCE LEVEL non-geographic dataset

[Hide Scope of quality information ▲](#)

[Hide Data Quality ▲](#)

Geoprocessing history ►

PROCESS

PROCESS NAME

DATE 2012-11-20 09:21:35

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

COMMAND ISSUED

DeleteField Soil_Roughness

NoName;NoName_1;NoName_12;NoName_12_13;NoName_12_13_14;NoName_12_13_14_15

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

[Hide Geoprocessing history ▲](#)

Distribution ►

DISTRIBUTION FORMAT

* NAME File Geodatabase Table

[Hide Distribution ▲](#)

Fields ►

DETAILS FOR OBJECT [Soil_Roughness](#) ▶

* TYPE Table

* ROW COUNT 117

DEFINITION

Soil roughness measurements taken at two locations within each SMAPVEX field .

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 [Site_ID](#) ▶

* ALIAS Site_ID

* DATA TYPE String

* WIDTH 255

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

Hyphenated identification number of the SMAPVEX field and sample site.

DESCRIPTION SOURCE

AAFC

[Hide Field Site_ID](#) ▲FIELD [UAV_Angle](#) ▶

* ALIAS UAV_Angle

* DATA TYPE Integer

* WIDTH 4

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The look direction of UAVSAR in degrees.

DESCRIPTION SOURCE

AAFC

[Hide Field UAV_Angle](#) ▲FIELD [UAV_RMS_Height](#) ▶

* ALIAS UAV_RMS_Height

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

FIELD DESCRIPTION

The root mean square height in cm measured in the look direction of UAVSAR.

DESCRIPTION SOURCE

AAFC

Hide Field UAV_RMS_Height ▲

FIELD UAV_Corr_Length ►

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

FIELD DESCRIPTION

The correlation length in cm measured in the look direction of UAVSAR.

Hide Field UAV_Corr_Length ▲

FIELD PALS_Angle ►

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

FIELD DESCRIPTION

The look direction of PALS in degrees.

DESCRIPTION SOURCE

AAFC

Hide Field PALS_Angle ▲

FIELD PALS_RMS_Height ►

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

FIELD DESCRIPTION

The root mean square height in cm measured in the look direction of PALS.

DESCRIPTION SOURCE

AAFC

Hide Field PALS_RMS_Height ▲

FIELD PALS_Corr_Length ►

* ALIAS PALS_Corr_Length
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The correlation length in cm measured in the look direction of PALS.

DESCRIPTION SOURCE

AAFC

[Hide Field PALS_Corr_Length ▲](#)

FIELD R2_Angle ►

* ALIAS R2_Angle

* DATA TYPE Integer

* WIDTH 4

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The look direction of RADARSAT-2 (descending mode) in degrees.

DESCRIPTION SOURCE

AAFC

[Hide Field R2_Angle ▲](#)

FIELD R2_RMS_Height ►

* ALIAS R2_RMS_Height

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The root mean square height in cm measured in the look direction of RADARSAT-2 (descending mode).

DESCRIPTION SOURCE

AAFC

[Hide Field R2_RMS_Height ▲](#)

FIELD R2_Corr_Length ►

* ALIAS R2_Corr_Length

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The correlation length in cm measured in the look direction of RADARSAT-2 (descending mode).

DESCRIPTION SOURCE

AAFC

[Hide Field R2_Corr_Length ▲](#)

[Hide Details for object Soil_Roughness ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

* METADATA LANGUAGE English (CANADA)
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

METADATA IDENTIFIER D779252C-03DE-4345-99BE-1C10F31BBF53

SCOPE OF THE DATA DESCRIBED BY THE METADATA * non-geographic dataset
 SCOPE NAME * dataset

* LAST UPDATE 2013-01-10

ARCGIS METADATA PROPERTIES
 METADATA FORMAT ArcGIS 1.0
 METADATA STYLE FGDC CSDGM Metadata
 STANDARD OR PROFILE USED TO EDIT METADATA NAP

CREATED IN ARCGIS FOR THE ITEM 2012-12-20 12:36:59
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2013-01-10 16:10:40

AUTOMATIC UPDATES
 HAVE BEEN PERFORMED Yes
 LAST UPDATE 2013-01-10 16:10:40

[Hide Metadata Details ▲](#)

Metadata Maintenance ►

MAINTENANCE
 UPDATE FREQUENCY as needed

[Hide Metadata Maintenance ▲](#)

FGDC Metadata (read-only) ►

Entities and Attributes ►

DETAILED DESCRIPTION

ENTITY TYPE

ENTITY TYPE LABEL Soil_Roughness

ENTITY TYPE DEFINITION

Soil roughness measurements taken at two locations within each SMAPVEX field .

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 Site_ID

ATTRIBUTE DEFINITION

Hyphenated identification number of the SMAPVEX field and sample site.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL UAV_Angle

ATTRIBUTE DEFINITION

The look direction of UAVSAR in degrees.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL UAV_RMS_Height

ATTRIBUTE DEFINITION

The root mean square height in cm measured in the look direction of UAVSAR.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL UAV_Corr_Length

ATTRIBUTE DEFINITION

The correlation length in cm measured in the look direction of UAVSAR.

ATTRIBUTE

ATTRIBUTE LABEL PALS_Angle

ATTRIBUTE DEFINITION

The look direction of PALS in degrees.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL PALS_RMS_Height

ATTRIBUTE DEFINITION

The root mean square height in cm measured in the look direction of PALS.

ATTRIBUTE DEFINITION SOURCE AAFC

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ATTRIBUTE DEFINITION

The correlation length in cm measured in the look direction of PALS.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

ATTRIBUTE LABEL R2_Angle

ATTRIBUTE DEFINITION

The look direction of RADARSAT-2 (descending mode) in degrees.

ATTRIBUTE DEFINITION SOURCE AAFC

ATTRIBUTE

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The root mean square height in cm measured in the look direction of RADARSAT-2 (descending mode).

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mode).

ATTRIBUTE DEFINITION SOURCE AAFC

Hide Entities and Attributes ▲