

# Soil\_Roughness

## File Geodatabase Table

Thumbnail Not Available

### 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: 204-259-4006 Cellular - Cellulaire: 204-293-6074 Facsimile - Télécopieur: 204-259-4055 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

*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

#### CONTACT INFORMATION ►

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##### ADDRESS

#### TYPE

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COUNTRY Canada

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[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](#) ▲

## 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 2013-03-19

#### 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 2012-12-20 12:36:59

LAST MODIFIED IN ARCGIS FOR THE ITEM 2013-03-19 10:25:54

#### AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2013-03-19 10:25:54