

Crop_Leaf_Area_Index

File Geodatabase Table

Thumbnail Not Available

Tags

environment, SMAPVEX12, count, geoscientificInformation, Leaf Area Index, Plant Area Index, Digital Hemispheric Photos

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 Leaf Area Index data recorded for fields surveyed during the course of the SMAPVEX12 field campaign between June 7 and July 17, 2012. Data includes photos and interpreted PAI for the sites.

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/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 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

EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

THEME KEYWORDS environment, geoscientificInformation

THESAURUS ►

TITLE ISO 19115 Topic Categories

[Hide Thesaurus ▲](#)

THEME KEYWORDS crop density, row spacing, SMAPVEX12, count

[Hide Topics and Keywords ▲](#)

Citation ►

* TITLE Crop_Leaf_Area_Index

PRESENTATION FORMATS digital document

FGDC GEOSPATIAL PRESENTATION FORMAT tabular digital data

[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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Télécopieur: 204-259-4055 200-303 Main Street, Winnipeg, MB R3C 3G7
grant.wiseman@agr.gc.ca

ARCGIS ITEM PROPERTIES

* NAME Crop_Leaf_Area_Index

* LOCATION

file:///\\mbwinnfs106\gis\$\data8\projects\land\soil\SMAPVEX12\data\Geodatabase\SMAPVE
X_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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FAX 204-259-4055

ADDRESS

TYPE

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CITY Winnipeg

ADMINISTRATIVE AREA Manitoba

POSTAL CODE 200-303 Main Street

COUNTRY CA

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/MSR/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 2013-01-18 11:22:09

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

COMMAND ISSUED

CalculateField Leaf_Area_Index Site_ID "[Field] + - + [Site]" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2013-01-18 11:24:37

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

COMMAND ISSUED

CalculateField Leaf_Area_Index Site_ID Chr([Field]) VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2013-01-18 11:42:08

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

COMMAND ISSUED

CalculateField Leaf_Area_Index Site_ID [Field] VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2013-01-18 11:42:44

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

COMMAND ISSUED

CalculateField Leaf_Area_Index Site_ID "[Field] & "-" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2013-01-18 11:42:59

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

COMMAND ISSUED

CalculateField Leaf_Area_Index Site_ID "[Field] & "-" & [Site]" VB #

INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME

DATE 2013-01-18 11:50:48
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG1" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:51:10
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG2" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:51:24
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG3" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:51:37
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes>Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG4" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:51:51
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG5" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:52:33
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG 1" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:52:49
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED

CalculateField Leaf_Area_Index Camera_ID "VEG 2" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:53:03
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG 3" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:53:15
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG 4" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:53:27
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Camera_ID "VEG 5" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:55:04
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Beans" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:55:29
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Canola" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:55:47
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Corn" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS

PROCESS NAME
DATE 2013-01-18 11:56:04
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Oats" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:56:23
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Pasture" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:56:39
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Soybeans" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:56:54
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Wheat" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:57:08
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type " Winter Wheat" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:57:46
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Crop_Type "Winter Wheat" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:58:40
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField

COMMAND ISSUED
CalculateField Leaf_Area_Index Facing "Down" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:59:00
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Facing "Down" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-18 11:59:17
TOOL LOCATION c:\program files (x86)\arcgis\desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Leaf_Area_Index Facing "Up" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

PROCESS
PROCESS NAME
DATE 2013-01-22 11:34:24
TOOL LOCATION C:\Program Files (x86)\ArcGIS\Desktop10.0\ArcToolbox\Toolboxes\Data
Management Tools.tbx\CalculateField
COMMAND ISSUED
CalculateField Crop_Leaf_Area_Index Crop_Type "Winter Wheat" VB #
INCLUDE IN LINEAGE WHEN EXPORTING METADATA No

Hide Geoprocessing history ▲

Distribution ►

DISTRIBUTION FORMAT
* NAME File Geodatabase Table

Hide Distribution ▲

Fields ►

DETAILS FOR OBJECT [Crop_Leaf_Area_Index](#) ►

* TYPE Table
* ROW COUNT 810

DEFINITION

Crop density data recorded for fields surveyed during the course of 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 Sample_Date ►

* ALIAS Sample_Date
* DATA TYPE Date
* WIDTH 8
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Date of photography

Hide Field Sample_Date ▲

FIELD Crop_Type ►

* ALIAS Crop_Type
* DATA TYPE String
* WIDTH 255
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

Type of crop planted at the time of sampling.

DESCRIPTION SOURCE

AAFC

Hide Field Crop_Type ▲

FIELD Camera_ID ►

* ALIAS Camera_ID
* DATA TYPE String
* WIDTH 255
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

The identification of vegetation team's camera (e.g. VEG 1 to VEG 5).

[Hide Field Camera_ID ▲](#)

FIELD Facing ►

- * ALIAS Facing
- * DATA TYPE String
- * WIDTH 255
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The direction of camera's lens, "down" for toward to the ground and "up" for toward to the sky

[Hide Field Facing ▲](#)

FIELD Num_Photos ►

- * ALIAS Num_Photos
- * DATA TYPE Integer
- * WIDTH 4
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The number of processed photos in each site

[Hide Field Num_Photos ▲](#)

FIELD fCover_mean ►

- * ALIAS fCover_mean
- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The Cover fraction (fCover) is defined as the fraction of the soil/sky covered by the vegetation viewed in the nadir direction. The mean value is calculated from all the processed photos for each site

[Hide Field fCover_mean ▲](#)

FIELD fCover_std ►

- * ALIAS fCover_std
- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The Standard Deviation of calculated fCover values.

[Hide Field fCover_std ▲](#)

FIELD PAI_True ►

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

FIELD DESCRIPTION

Plant Area Index, an estimation of Leaf Area Index (LAI) calculated by CanEye software from Digital Hemispheric Photos (DHP)

Hide Field PAI_True ▲

FIELD Eff_PAi ►

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

FIELD DESCRIPTION

The PAI based on the modeling in the version 6.1 of CanEye (the latest version of software is 6.39).

Hide Field Eff_PAi ▲

FIELD Eff_PAi_Miller ►

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

FIELD DESCRIPTION

The derived PAI from the gap fraction measured in all directions using the formula of Miller (1967), (this model assumes that gap fraction depends only on the view zenith angle).

Hide Field Eff_PAi_Miller ▲

FIELD Comments ►

* ALIAS Comments
* DATA TYPE String
* WIDTH 255
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

For any issue observed in the field processing etc.

Hide Field Comments ▲

FIELD Site_ID ►

* ALIAS Site_ID
* DATA TYPE String
* WIDTH 10
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

The sampling sites' ids (11-2, 45-11 or 72-14)

[Hide Field Site_ID ▲](#)

[Hide Details for object Crop_Leaf_Area_Index ▲](#)

[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 2013-03-19

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 2013-01-18 11:22:09

LAST MODIFIED IN ARCGIS FOR THE ITEM 2013-03-19 10:16:23

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2013-03-19 10:16:23