3rd Satellite Soil Moisture Validation and Application Workshop

Millennium Broadway Hotel New York 145 West 44th Street New York, NY 10036

Agenda ver. Sept. 12, 2016

Wednesday September 21

Session	Title	Authors
Plenary (Chair J. Entin)		
8:15	Welcome	
8:30	A tribute to dr. Manfred Owe (1950-2016), a pioneer in satellite soil moisture	Richard de Jeu
Soil Moisture Missions (J. Entin)		
9:00	ESA's Soil Moisture and Ocean Salinity Mission: Status and mission performance over land	S. Mecklenburg, M. Drusch, Y. Kerr, M. Martin-Neira, R. Sabia
9:15	Scatterometry at EUMETSAT: Sensors and Products	Lothar Schueller
9:30	SMAP Soil Moisture Product Validation	T. J. Jackson and A. Colliander
9:45	SMOS Cal Val Activities and synergies with SMAP Cal Val	Yann H. Kerr, Francois Cabot, Beatriz Molero, Philippe Richaume, Arnaud Mialon, Nemesio Rodrigue, Delphine Leroux
10:00	Assessment of the validated soil moisture product from the SMAP radiometer	P. O'Neill, S. Chan, A. Colliander, S. Dunbar, E. Njoku, R. Bindlish, F. Chen, T. Jackson, M. Burgin, J. Piepmeier, S. Yueh, D. Entekhabi, M. Cosh, T. Caldwell, J. Walker, X. Wu, A. Berg, T. Rowlandson, A. Pacheco, H. McNairn, M. Thibeault, J. Martínez- Fernández, Á. González-Zamora, M. Seyfried, D. Bosch, P. Starks, D. Goodrich, J. Prueger, M. Palecki, E. Small, M. Zreda, J-C. Calvet, W. Crow, and Y. Kerr
10:15	BREAK	
Validation and Intercomparisons of Products (Chair R. de Jeu)		
10:30	Evaluation of model and satellite soil moisture estimates against in-situ observations in southern South America	Danilo Dadamia, E. Hugo Berbery, Omar Muller
10:45	Evaluating soil moisture retrievals from ESA's SMOS and NASA's SMAP brightness temperature data-sets (ESA and NASA algorithms & regression analysis)	A. Al-Yaari, J.-P. Wigneron, Y. Kerr, P. E. O'Neill, T. J. Jackson, G.J.M. De Lannoy, N. Rodriguez-Fernandez, A. Al Bitar, A. Mialon, P. Richaume, and S. Yueh
11:00	Integration of passive and active microwave data for soil moisture monitoring in northern Italy	Emanuele Santi, Simonetta Paloscia, Simone Pettinat, Dara Entekhabi, Luca Brocca
11:15	Validation of the ESA CCI soil moisture product over a European domain	Jostein Blyverket, William Lahoz, Tove Svendby, Paul Hamer
11:30	Inter-Comparison of SMAP, SMOS and GCOM-W soil moisture products	Rajat Bindlish, Tom Jackson, Steven Chan, Andreas Colliander, Mariko Burgin, Michael Cosh, Jeff Walker
11:45	SMAP Soil Moisture and Vegetation Optical Depth from the Land Parameter Retrieval Model	R. van der Schalie, and R.A.M. de Jeu
12:00	Evaluation of multi-satellite root zone soil moisture products across southern Australia	A. Monerris, C. Rüdiger, W. Wagner, R. Reichle, and N. M. Lindner
12:15	LUNCH	
Validation and Intercomparison Techniques (Chair E. Santi)		
13:30	Soil Moisture Retrieval from C-Band Microwave Sensors: Giving Good Results for the Wrong Reasons?	Wolfgang Wagner
13:45	Ground truth of in situ soil moisture networks: a case study from the USDA watersheds	Michael H. Cosh, Thomas J. Jackson, Andreas Colliander, John Prueger, Chandra Holifield Collins, and Evan Coopersmith
14:00	Airborne Measurements to Support Cal/Val Activities of SMAP Data Products	Andreas Colliander, Sid Misra, Tom Jackson, Chun Sik Chae, Mike Cosh, Simon Yueh
14:15	The fourth and fifth SMAP Experiments (SMAPEx-4 & 5): preliminary results	Nan Ye, Jeffrey Walker, Xiaoling Wu, Christoph Rüdiger, Thomas Jackson, Dara Entekhabi, Richard DeJeu, Olivier Merlin, Edward Kim, Luigi Renzullo
14:30	On the evaluation of remotely sensed soil moisture - What are (the) errors?	Alexander Gruber, Clement Albergel, Brian Barrett, Luca Brocca, Wade Crow, Richard de Jeu, Wouter Dorigo, Seyed Hamed Alemohammad, Martin Hirschi, Alexandra Konings, William Lahoz, Alexander Loew, Kaighin McColl, Nadine Nicolai-Shaw, Robert Parinussa, Chiara Pratola, Sonia Seneviratne, Chun-Hsu Su, Robin van der Schalie, Wolfgang Wagner, Simon Zwieback

Triple Colocation (Chair W. Wagner)		
14:45	Application of Triple Collocation to Parameterize Two-Dimensional Soil Moisture Data Assimilation	Wade T. Crow and Alexander Gruber
15:00	Use of Triple Collocation in Satellite Soil Moisture Validation at Sparse Networks	Fan Chen and Wade T. Crow
15:15	Sensitivity of Soil Moisture Validation Metrics to Sample Size	Seyed Hamed Alemohammad, Chun-Hsu Su, Kaighin McColl, Alexandra Konings, Dara Entekhabi
15:30	Validating satellite retrievals of soil moisture and its freeze/thaw state in the presence of representativeness errors	Kaighin A. McColl, Alexandre Roy, Chris Derksen, Alexandra G. Konings, Seyed Hamed Alemohammad, Dara Entekhabi
Posters	**15:45-18:00**	

Thursday September 22		
Data Assimilation (Chair W. Crow)		
8:30	Bias correcting remotely sensed soil moisture for data assimilation at subseasonal, seasonal, and inter-annual timescales	Clara Draper and Rolf Reichle
8:45	Using statistical retrieval techniques to improve SMAP soil moisture assimilation	Jana Kolassa, Rolf Reichle, Clara Draper, Pierre Gentine, Hamed Alemohammad, Catherine Prigent, Filipe es, Qing Liu
9:00	Assimilation of radar backscatter and radiometer brightness temperature observations to improve hydrologic simulations	H. Lievens, B. Martens, N.E.C. Verhoest, S. Hahn, D.G. Miralles
9:15	Intercomparison of ASCAT, AMSR-E, SMOS, and SMAP soil moisture assimilation impacts on offline LSM spinup	J. A. Santanello, S. Kumar, K. Harrison, C. Peters-Lidard
9:30	Global analysis of surface soil moisture in ORCHIDEE satellite product based on ESA-CCI combined product	Delorme Bertrand, Otlle Catherine, Peylin Philippe, Maugis Pascal
9:45	BREAK	
Downscaling and Algorithms (Chair M. Drusch)		
10:15	Combining SMAP and Sentinel Data for High-Resolution Soil Moisture Product	N. Das, D. Entekhabi, S. Kim, and S. Yueh
10:30	Soil moisture downscaling using a simple thermal based proxy	Jian Peng, Alexander Loew, Jonathan Niesel
10:45	Downscaling of SMAP L4 modelled soil moisture based on Sentinel-1 and a machine learning approach	Felix Greifeneder, Claudia Notarnicola, and Wolfgang Wagner
11:00	An evaluation of optical-, radar- and radiometer-based downscaling approaches	Sabah Sabaghy, Jeffrey Walker, Luigi Renzullo, Ruzbeh Akbar, Narendra Das, Dara Entekhabi, Anouk Gevaert, Thomas Jackson, Olivier Merlin, Mahta Moghaddam, Maria Piles, Chris Rudiger, and Vivien Stefan
11:15	New downscaling method integrating L- band radiometer and C-band radar observations	Christoph Rüdiger, Chun-Hsu Su, Dongryeol Ryu, Wolfgang Wagner
11:30	Physically-based covariation modelling and retrieval for mono- (L) and multi-frequency (L/C) active-passive microwave data from SMAP and Sentinel-1	Thomas Jagdhuber, Dara Entekhabi, Narendra N. Das, Seungbum Kim and Simon Yueh
11:45	Retrievals of SMAP soil moisture, vegetation optical depth, and scattering albedo obtained from the multi- temporal dual channel algorithm	Alexandra Konings, Dara Entekhabi, Maria Piles
12:00	LUNCH	
Applications (Chair N. Das)		
13:15	Merging multiple soil moisture products (SMAP, SMOS; ASCAT) for improving the accuracy in rainfall estimation through SM2RAIN	Luca Brocca, Christian Massari, Luca Ciabatta, Angelica Tarpanelli
13:30	Examining Agricultural Drought Signals and Thresholds With Satellite Soil Moisture	Catherine Champagne, Trevor Hadwen and Patrick Cherneski
13:45	Satellite derived soil moisture and its application for agriculture and food security	Mattias Drusch
14:00	The added-value of satellite soil moisture for agricultural index insurance	Markus Enenkel, Daniel Osgood
14:15	Validation and applications of global soil moisture retrievals from NASA SMAP satellite for NOAA operations	Xiwu Zhan, Jicheng Liu, Jun Wen, Limin Zhao, Weizhong Zheng, Fuzhong Weng, Michael Ek
New Opportunities (Chair T. Jackson)		
14:30	Water Cycle Observing Mission (WCOM)	Jiangchi Shi
14:45	WMO Soil Moisture Demonstration Project (SMDP) Initiative	John Qu, Xianjun Hao, Ray Motha, Robert Stefanski, Johan
Discussion Topics 15:00-17:00		
15:00	Validation Best Practices Document	T. Jackson, A. Gruber
15:35	Future of Soil Moisture Satellites: Plans and	J. Entin, S. Mecklenburg, R. de Jeu
16:10	International Soil Moisture Network	W. Wagner, J. Qu

Posters Weds. 15:30-18:00 Size 240 cm (W) by 120 cm (H)	
Assimilation of L-band Soil Moisture Brightness Temperatures (TB) into the Soil, Vegetation and Snow (SVS) Scheme within the Canadian Land Data Assimilation System (CaLDAS)	Maria Abrahamowicz, Marco L. Carrera, Bernard Bilodeau, Nasim Alavi, Stephane Belair, Albert Russell and Xihong Wang
Kuwait field measurements of soil moisture for the validation of SMAP satellite	H. Al Jassar, P. Petrov, D. Entekhabi, H. Al Sarraf, A. Al Aree,i M. Ansari, T Ashraf, R. Nair
Comparison of Soil Moisture in Kuwait Numerical Model Simulations and SMAP Satellite Observations Over Kuwait	Hussain Alsarraf, Hala Aljassar
Spatial and temporal soil moisture variability and upscaling strategy at semi- arid Mongolian Grassland	Jun Asanuma, Kentaro Aida, and Kenshi Kobayashi, G. Davaa and D. Oyunbaatar
Advances on microwave soil moisture products development and uses within JASMIN project	Mattias Barber, Cintia Bruscantini, Francisco Grings, Mercedes Salvia, Pablo Spennemann, Romina Ruscica, Omar Mueller, Ernesto Hugo Berbery, Haydee Karszenbaum
Evaluating Upscaling Techniques for SMAP Cal/Val Networks	Aaron Berg, Tracy Rowlandson, William Woodley, Adam Bonnycastle, Erica Tetlock
SMAP Retrieval Assimilation in the Land Information System at NASA SPoRT	Clay Blankenship, Jonathan Case, and Bradley Zavodsky
Preliminary study for the use of satellite soil moisture information for Nowcasting-Short Range NWP forecasts	V. Cardinali
SMAP Radiometer Measurements Resolution-Enhancement Based on Overlapping Samples and Deconvolution	Julian Chaubell, S. Yueh,, D. Entekhabi, J. Peng
Evaluation of SMOS and SMAP retrievals with in-situ observation from the Romanian Soil Moisture Network	Andrei Diamandi, Elena Mateescu, Gheorghe Stancalie, Oana Nicola, Anisoara Irimescu, Denis Mihailescu, Argentina Nertan, Ionut Sandric, Daniela Saizu
Calibration of the effective scattering albedo and roughness parameters in the SMOS retrieval algorithm	R. Fernandez-Moran, J.-P. Wigneron, G. De Lannoy, E. Lopez-Baeza, A. Mialon, A. Mahmoodi, M. Parrens, A. Al Bitar, P. Richaume, Y. Kerr
Statistical retrieval of surface and root zone soil moisture	Jana Kolassa, Hamed Alemohammad, Catherine Prigent
Validation of the first year of SMAP soil moisture radiometer data over REMEDHUS network in the Northwest of Spain	Angel Gonzalez-Zamora, Nilda Sanchez and Jose Martinez-Fernandez
A plant available water estimation using SMOS L2 Soil Moisture in an agricultural area in Spain	Ángel González-Zamora, Nilda Sánchez, José Martínez- Fernández and Wolfgang Wagner
Drought Monitoring in Barani (Rain fed) Area of Northern Pakistan	Saad ul Haque, Badar Ghauri
Confronting Climate Model with satellite data	Ako Heidari, Paul Dirmeyer
Retrieval ensembles for assessing footprint scale soil moisture retrieval errors in Near Real Time (NRT)	Lee Ju Hyoung
Validation of EO-Based Soil Moisture Products in Northern Boreal Forest Zone: Case study of Sodankyla, Northern	Jaakko Ikonen, Kimmo Rautiainen, Juho Vehvilainen, Tuomo Smolander, Juha Lemmetyinen, Jouni Pulliainen
Soil Moisture in situ network based on LoRaWAN Technology	Richard de Jeu, John Tillema, Sven Hatjema, Robbert Mica, Mariette Vreugdenhil, Wolfgang Wagner
Remotely sensed surface soil moisture for calibration in SWAT model	Dipangkar Kundu, R. Willem Vervoort, Floris F. van Ogtrop
Toward improving the representation of the water cycle at High Northern Latitudes	William Lahoz, Tove Svendby, Jostein Bylverket, Paul Hamer, and Jarn Kristiansen
Downscaling of radiometer derived soil moisture from aircraft and satellite sensors	Bin Fang, Venkat Lakshmi, T. Jackson, M. Cosh, A. Colliander
Potential of combining satellite soil moisture observations from different sensors for drought studies	X. Liu, M. Levy, J. Mulvey, M. Walsh
Improving global estimates of terrestrial evaporation through the assimilation of satellite-based soil moisture	B. Martens, D. G. Miralles, H. Lievens, R. van der Schalie, R.A.M. de Jeu, W.A. Dorigo, and N.E.C. Verhoest
Evaluation of potential data AMSR-E microwave band sensors to monitor soil moisture with high precision in agriculture	Aboozar Mehraban, V. Ikani, I. Babaiean
On-the-go GNSS reflectometry for precision agriculture	A. Monerris, C. Rüdiger, R. Onrubia, A. Alonso-Arroyo, A. Camps, and J.P. Walker
A structural perspective on the spatio-temporal variability of global soil moisture products	C. Montzka, H. Bogena, X. Han, K. Ratzer, H. Vereecken

Effects of RFI on soil moisture retrievals	Roger Oliva, Philippe Richaume, Yann H. Kerr, Elena Daganzo
A flexible, open source time series processing framework for soil moisture validation.	Christoph Paulik, Sebastian Hahn, Christoph Reimer, Thomas Mistelbauer, Andreaa Plocon, Alexander Gruber
Evaluation of satellite-based and reanalysis soil moisture products using ground-based measurements	Jian Peng, Jonathan Niesel, Alexander Loew, Shiqiang Zhang, Jie Wang
The influence of the Madden-Julian Oscillation on the variability of global land surface soil moisture	Jian Peng, Alexander Loew, Traute Crueger
Relating MODIS vegetation index with SMAP NASA satellite soil moisture observations over the desert of Kuwait	Peter Petrov, Hala Al Jassar, Ilyes Allani
The SMAP Level 4 Surface and Root Zone Soil Moisture (L4_SM) Data Product	R. H. Reichle, G. De Lannoy, Q. Liu, J. Ardizzone, F. Chen, A. Colliander, A. Conaty, W. Crow, T. Jackson, J. Kimball, R. Koster, B. Smith
Bushfire risk assessment using soil moisture proxies	Christoph Rudiger, John Reager, Matthew Rodell, Alexander Holmes, Nigel Tapper
Spatio-Temporal Variation of Soil Moisture and Surface Fluxes over Indian Subcontinent in Relation to Indian Summer Monsoon: Validation and Inter-Comparison of Data Products	Anusha Sathyanadh, Anandakumar Karipot, Manish Ranalkar, Thara Prabhakaran
SMAP is biased high after rain events	Peter J. Shellito, Eric E. Small
Evaluation of six satellite-based soil moisture products over a semiarid area in southeastern Arizona	Susan Stillman
Multiplatform study of the impact of no-till farming on Soil moisture estimation over the Argentinian SMAP Core-Site	Marc Thibeault, et al.
Analyzing Soil and Vegetation Parameters from Sentinel-1 Backscatter Observations over a small catchment in Austria	Mariette Vreugdenhil, Alexander Eder, Alena Dostalova, Vahid Naeimi, Senmao Cao, Markus Oismuller, Thomas Bauer and Wolfgang Wagner
Comparison of Polarimetric Decomposition for Soil Moisture Retrieval over Agricultural Vegetated Fields	Hongquan Wang, Ramata Magagi and Kalifa Goita
Global scale runoff estimation through the integration of SMAP and GPM	Christian Massari, Luca Brocca, Luca Ciabatta, Angelica Tarpanelli, Stefania Camici, Silvia Barbetta, Tommaso Moramarc