

18 September 2017 - CCI Soil Moisture Workshop

09:00	10:30	Oral Session 1: CCI Data Characteristics and Validation	Chair: Wolfgang Wagner
09:00	09:10	Welcome & Logistics; Seed Questions for Feedback	Wouter Dorigo
09:10	09:30	Keynote (TBC)	TBC
09:30	09:45	ESA CCI Soil moisture: Recent improvements of the soil moisture retrievals from passive microwave sensors	Robin van der Schalie, Richard de Jeu and Wouter Dorigo
09:45	10:00	ESA CCI Soil moisture: Recent improvements of the soil moisture retrievals from active microwave sensors	Sebastian Hahn, Mariette Vreugdenhil, Thomas Melzer, Wolfgang Wagner
10:00	10:15	ESA CCI Soil Moisture - from science to operations	Wouter Dorigo, Alexander Gruber, Christoph Paulik, Robin van der Schalie, Robert Parinussa, Christoph Reimer, Daniel Chung, Martin Ertl, Richard de Jeu, Richard Kidd and Wolfgang Wagner
10:15	10:30	Homogeneity testing of the global ESA CCI multi-satellite soil moisture climate data record	Wolfgang Preimesberger, Chun-Hsu Su, Alexander Gruber and Wouter Dorigo
10:30	11:00	Coffee Break	
11:00	12:30	Oral Session 2: CCI for Advancing Earth System Sciences	Chair: Wouter Dorigo
11:00	11:15	Diagnosing agricultural drought from 1980 to 2010 with the ESA CCI soil moisture data	Matteo Zampieri, Lorenzo Seguini, Frank Dentener and Andrea Toreti
11:15	11:30	Leveraging Long-term, Remotely-Sensed Soil Moisture Datasets for Optimal Averaging of Ensemble Land Surface Model Predictions	Wade Crow
11:30	11:45	A drought event composite analysis using satellite remote-sensing based soil moisture	Nadine Nicolai-Shaw, Jakob Zscheischler, Martin Hirschi, Lukas Gudmundsson and Sonia I. Seneviratne
11:45	12:00	Interannual variability of the satellite observed and WRF modeled soil moisture in connection with dust events	Min Huang, Greg Carmichael and Daniel Tong
12:00	12:15	Long-term ESA CCI soil moisture derived rainfall product through SM2RAIN	Luca Ciabatta, Christian Massari, Stefania Camici, Luca Brocca, Alexander Gruber, Christoph Reimer, Sebastian Hahn, Christoph Paulik, Wouter Dorigo and Wolfgang Wagner
12:15	12:30	Towards cross-cutting land ECV consistency assessment through data assimilation	Jean-Christophe Calvet, Delphine Leroux, Clément Albergel, Alina Barbu, Simon Munier and Catherine Meurey
12:30	13:30	Lunch	
13:30	15:00	Oral Session 3: Potential Improvements	Chair: Richard de Jeu
13:30	13:45	Assessing the potential of using a soil moisture climatology based on L-band passive microwave observations for the ESA CCI Soil Moisture	Maria Piles, Robin van der Schalie, Alexander Gruber, Robert Parinussa, Richard de Jeu and Wouter Dorigo
13:45	14:00	Evaluation of 14 years of SMOS and SMOS-like soil moisture against the ESA CCI dataset	Nemesio Rodriguez-Fernandez, Bertrand Cluzet, Arnaud Mialon, Ahmad Al Bitar, Yann Kerr, Amen Al Yaari and Jean-Pierre Wigneron
14:00	14:15	Towards creating a ESA CCI soil moisture root-zone product?	Jostein Blyverket, Paul Hamer and William Lahoz
14:15	14:30	Metop ASCAT vegetation parameters estimated from morning and evening orbit overpass and their impact on estimated soil moisture	Susan Steele-Dunne, Sebastian Hahn and Wolfgang Wagner
14:30	14:45	The Compounding Effects of Sub-Surface Features in Soil Moisture Retrievals with Radar	Keith Morrison, Simon Thomas and Wolfgang Wagner
14:45	15:00	From METOP ASCAT to METOP-SG SCA: Science Needs over Land	Wolfgang Wagner, Sebastian Hahn, Stefano Elefante, Mariette Vreugdenhil
15:00	15:30	Coffee Break	
15:30	16:30	Discussion: What are the priorities for soil moisture climate data services?	Chair: Richard Kidd
16:30	17:00	Short Presentations of Posters on Display in Poster Session I (max. 2 slides and 2 minutes per poster)	Chair: Mariette Vreugdenhil
Poster 1		Validation of satellite soil moisture in the absence of in situ soil moisture: the case of the Tropical Yankin Basin, Benin	Djigbo F. Badou, Bernd Diekkrüger, Luc O. Sintondji, Carsten Montzka and Euloge K. Abgossou
Poster 2		Comparison of European Space Agency's (ESA) soil moisture and NDVI trends in monthly scale (Case study: Iran)	Elham Fakhrazadeshirazi, Ali Akbar Sabziparvar, Sahar Sodoudi and Amin Shirvani
Poster 3		Evaluating Soil Moisture from Space in Central Minnesota combining SMAP-SMOS Satellites and Land Surface Model	Francisco Lahoud, John Nieber and Dario Canelon
Poster 4		Remote Sensing of Soil Moisture in a Forested Peat Wetland in Virginia and North Carolina, USA	Laurel Gutenberg, John Qu, Jinwoo Kim, Zhong Lu, Xianjun Hao, Chenyang Xu, Dianna Hogan, Zhiliang Zhu and Gary Speiran
Poster 5		Effects of the mesoscale circulation on soil moisture over Kuwait	Hussain Alsarraf and Hala Aljassar
Poster 6		Soil Moisture influence in Desert Locust development	Diego Gomez, Carlos Casanova, Pablo Salvador, Julia Sanz, Maria Piles, Mercé Vall-Llossera and Miguel Garcia
Poster 7		FCOVER to measure impact of dry rainy seasons in Northern Central America	Fernando Roque
Poster 8		The Implementation and Evaluation of a Particle Filter for Assimilation of Soil Moisture Observations	Jostein Blyverket, Åsmund Bakketun, Paul Hamer, Clément Albergel and William Lahoz
Poster 9		Comparison of the soil moisture from simulation with conceptual hydrologic model with the site observations, using satellite based soil moisture product from H-SAF	Marija Ivković and Jasna Plavšić
Poster 10		Estimating irrigated cropland from satellite and model soil moisture data over the contiguous US	Felix Zaussinger, Wouter Dorigo and Alexander Gruber
Poster 11		Detecting Soil Moisture by Combining MODIS/Landsat and In-situ Measurements Over Cropland of Iowa State, USA	Chenyang Xu, John Qu and Xianjun Hao
Poster 12		Assessment of Soil Moisture Content before and during the 1998-2002 Drought in Pakistan	Muhammad Hasan Ali Baig, Sara Nouman, Mubashra Sultan
17:00	19:00	Poster Session I & Ice Breaker	

19 September 2017 - Satellite Soil Moisture Validation and Application Workshop Day 1

09:00	10:35	Oral Session 1: Passive Microwave Sensing	Chair: Tom Jackson & Yann Kerr
09:00	09:05	Welcome & Logistics	Wolfgang Wagner
09:05	09:20	ESA's Soil Moisture and Ocean Salinity Mission – Status and mission performance over land	Susanne Mecklenburg, Matthias Drusch, Yann Kerr, Manuel Martin-Neira and Roberto Sabia
09:20	09:35	The SMOS soil moisture validation and intercomparison approach and results	Yann Kerr, Jean Pierre Wigneron, Beatriz Molero-Rodenas, Roberto Fernandez-Moran, Arnaud Mialon, Amen Al-Yaari, Ali Mahmoodi, Simone Bircher, Nemesio Rodriguez-Fernandez, Philippe Richaume, Ahmad Al Bitar and François Cabot
09:35	09:50	Inter-calibration of low frequency brightness temperature measurements for a long-term uniform soil moisture record	Mariko Burgin, Andreas Colliander, Chun-Sik Chae, Emmanuel Dinnat, Michael Cosh, Ying Gao and Jeffrey Walker
09:50	10:05	Integrating SMOS and SMAP observations	Rajat Bindlish, Thomas Jackson, Steven Chan, Andreas Colliander and Yann Kerr
10:05	10:20	SMOS-IC: an alternative SMOS soil moisture and vegetation optical depth product	Jean-Pierre Wigneron, Amen Al-Yaari, Roberto. Fernandez, Arnaud Mialon, Ali Mahmoodi, Ahmad Al-Bitar, Nemesio Rodriguez, Gabrielle De Lannoy and Yann Kerr
10:20	10:35	Soil moisture estimation from L-band active and passive microwave observations acquired by Aquarius over the Tibetan Plateau	Qiang Wang, Rogier van der Velde and Bob Su
10:35	11:00	Coffee Break	
11:00	12:30	Oral Session 2: Active Microwave Sensing	Chair: Claudia Notarnicola & Alexander Löw
11:00	11:15	High resolution Soil moisture content from Sentinel-1 data	Francesco Mattia, Anna Balenzano, Giuseppe Satalino, Francesco Lovergine, Alexander Loew, Jian Peng, Urs Wegmuller, Maurizio Santoro, Oliver Cartus, Katarzyna Dabrowska-Zielinska, Jan Musial and Malcolm W. J. Davidson
11:15	11:30	Combining SMAP and Sentinel-1 data into a prototype ANN algorithm for soil moisture monitoring	Emanuele Santi, Simonetta Paloscia, Simone Pettinato, Luca Brocca and Luca Ciabatta
11:30	11:45	Development and Algorithm Updates of the SMAP Resolution-Enhanced Passive Soil Moisture Product	Steven Chan, Rajat Bindlish, Peggy O'Neill, Thomas Jackson, Andreas Colliander and Fan Chen
11:45	12:00	High-Resolution Enhanced Product based on SMAP Active-Passive Approach using Sentinel 1A and 1B SAR Data	Narendra Das, Dara Entekhabi, Seungbum Kim, Scott Dunbar, Simon Yueh and Andreas Colliander
12:00	12:15	Integration of SAR multi-frequency and optical data for the retrieval of soil moisture and vegetation water content	Antonio Padovano, Felix Greifeneder, Roberto Colombo, Giovanni Cuzzo and Claudia Notarnicola
12:15	12:30	How well the effects of vegetation and roughness were corrected for soil moisture retrieval using L-band radar data?	Seungbum Kim, Huanting Huang and Tienhao Liao
12:30	13:30	Lunch	
13:30	15:00	Oral Session 3: In situ Network & Validation	Chair: John Qu & Drew Hemment
13:30	13:45	Ongoing research at the Marena Oklahoma In Situ Sensor Testbed (MOISST)	Michael Cosh and Tyson Ochsner Ochsner
13:45	14:00	RSMN: 4 Years of In-Situ & Satellite Soil Moisture Observations in Romania	Andrei Diamandi, Elena Mateescu, Oana Nicola, Eduard Luca and Robert Chiritescu
14:00	14:15	Spatial and temporal variability of soil moisture: 6 years survey of SMOS data and in-situ soil moisture measurements in Poland	Mateusz Lukowski, Wojciech Marczewski, Bogusław Usowicz, Jerzy Usowicz, Jan Słomiński, Edyta Rojek, Radosław Szlązak, Lukasz Gluba and Joanna Sagan
14:15	14:30	Cross-comparison of independent high-resolution soil moisture products across an agricultural landscape in south-eastern Australia	Christoph Rüdiger, Alessandra Moneris, David McJannet, Luigi Renzullo, Mariette Vreugdenhil and Wolfgang Wagner
14:30	14:45	Sentinel-1 Surface Soil Moisture: Comparison against an optimized Metop ASCAT soil moisture product and in-situ data in Lower Austria.	Isabella Pfeil, Sebastian Hahn, Bernhard Bauer-Marschallinger, Simon Hochstätter, Mariette Vreugdenhil and Wolfgang Wagner
14:45	15:00	Dense groundwater networks as an unexplored validation tool for satellite soil moisture	Richard de Jeu, Anne de Nijs, Robin van der Schalie and Robert Parinussa
15:00	15:30	Coffee Break	
15:30	16:00	Short Presentations of Posters on Display in Poster Session II (max. 2 slides and 2 minutes per poster)	Chair: Chris Rüdiger
Poster 1		Integrating SAR and optical data for producing high spatial resolution soil moisture maps. An indirect validation of the product via data assimilation techniques	Luca Cenci, Luca Pulvirenti, Giorgio Boni, Giuseppe Squicciarino, Simone Gabellani, Nazzareno Pierdicca, Marco Chini, Patrick Matgen, Massimiliano Bordoni, Maria Giuseppina Persichillo and Claudia Meisina
Poster 2		Soil moisture estimation from SMAP polarimetric radar data with AQUARIUS derived regression coefficients	Mariko Burgin and Jakob van Zyl
Poster 3		The study of the observation operator of simplified extended Kalman filter in the SL-AV global medium-range weather forecast model	Svetlana Makhnorylova and Mikhail Tolstykh
Poster 4		Global soil moisture monitoring with Sentinel-1: required data processing and analysis capabilities	Vahid Naeimi, Senmao Cao, Christoph Paulik, Bernhard Bauer-Marschallinger, Alena Dostalova, Stefano Elefante, Stefan Schaufler, Duy Ba Nguyen, Simon Hochstoege, Iftikhar Ali, Tuan Le, Mariette Vreugdenhil and Wolfgang Wagner
Poster 5		1km Soil Moisture from Sentinel-1 and ASCAT: Evolutions Activities within the Copernicus Global Land Services.	Bernhard Bauer-Marschallinger, Christoph Paulik, Simon Hochstätter, Vahid Naeimi, Senmao Cao and Wolfgang Wagner
Poster 6		Recent Developments of the International Soil Moisture Network	Elsa Heer, Angelika Xaver, Romina Messner and Wouter Dorigo
Poster 7		ISMN based validation of Sentinel-1 soil moisture estimations	Felix Greifeneder, Claudia Notarnicola and Wolfgang Wagner
Poster 8		Statistical Downscaling Remotely-Sensed Soil Moisture Estimates	Seyed Hamed Alemohammad, Jana Kolassa, Catherine Prigent, Filipe Aires and Pierre Gentine
Poster 9		Validation of the SMOS-BEC products in different networks	Luciana Rossato, Mercè Vall-Lloera, Adriano Camps, Maria Piles, Gerard Portal, David Chaparro and Regina Alvalá
Poster 10		How can radar backscatter be used to set-up and constrain the hydrological model of the Meuse river basin?	Laurene Bouaziz, Tim van Emmerik and Hubert Savenije
Poster 11		Upscaling of ground measured surface soil moisture using Sentinel and Landsat data	Dongying Zhang, John J Qu and Lingkui Meng
Poster 12		An Evaluation of SMAP Soil Moisture Products over Cold and Arid Regions Using Distributed Observation Network Data	Chunfeng Ma, Shuguo Wang, Rui Jin and Xin Li
16:00	17:30	Poster Session II & Refreshments	
18:30	22:00	Conference Dinner	

20 September 2017 - Satellite Soil Moisture Validation and Application Workshop Day 2

09:00	10:30	Oral Session 4: Data Assimilation & Downscaling	Chair: Niko Verhoest & Lothar Schüller
09:00	09:15	Sequential assimilation of satellite-derived vegetation and soil moisture products using SURFEX_v8.0: LDAS-Monde assessment over the Euro-Mediterranean area	Clement Albergel, Simon Munier, Delphine J. Leroux, Helene Dewaele, David Fairbairn, Alina L. Barbu, Emiliano Gelati, Wouter Dorigo, Stephanie Faroux, Catherine Meurey, Patrick Lemoigne, Bertrand Decharme, Jean-Francois Mahfouf and Jean-Christophe Calvet
09:15	09:30	Exploiting ASCAT-derived Soil Moisture Products for improving Flash Floods Forecast in Mediterranean Catchments via Data Assimilation	Luca Cenci, Paola Laiolo, Simone Gabellani, Lorenzo Campo, Francesco Silvestro, Fabio Delogu, Giorgio Boni, Roberto Rudari, Luca Pulvirenti, Giuseppe Squicciarino and Nazzareno Pierdicca
09:30	09:45	Optimizing bias correction in SMAP soil moisture assimilation	Jana Kolassa, Rolf Reichle, Qing Liu, Seyed Hamed Alemohammad and Pierre Gentine
09:45	10:00	Version 3 of the SMAP Level 4 Soil Moisture Product	Rolf Reichle, Qing Liu, Joseph Ardizzone, Wade Crow, Gabrielle De Lannoy, Jana Kolassa, John Kimball and Randal Koster
10:00	10:15	A review of spatial downscaling of satellite remotely-sensed soil moisture	Jian Peng, Alexander Loew, Olivier Merlin and Niko E. C. Verhoest
10:15	10:30	Prediction of satellite soil moisture sub-grid variability based on soil texture information	Kathrina Rötzer, Carsten Montzka, Heye Bogena and Harry Vereecken
10:30	11:00	Coffee Break	
11:00	12:30	Oral Session 5: Validation & Intercomparison	Chair: Rolf Reichle & Stefan Bojinski
11:00	11:15	Uncertainty assessment of space-borne passive soil moisture retrievals	Jan Quets, Gabriëlle De Lannoy, Rolf Reichle, Michael Cosh, Robin van der Schalie and Jean-Pierre Wigneron
11:15	11:30	Impact of Excluding Precipitation Events from Soil Moisture Validation	Andreas Colliander, Thomas Jackson, Michael Cosh, Todd Caldwell, Aaron Berg, Heather McNairn, Jose Martinez-Fernandez and Jeffrey Walker
11:30	11:45	The Impact of soil moisture temporal and spatial variability on passive satellite microwave observations over the Desert of Kuwait	Hala Aljassar, Marouane Temimi, Peter Petrov, Dara Entikhabi and Hussain Alsarraf
11:45	12:00	Inter-comparison of Operational Global Soil Moisture Products from Satellite Remote Sensing	Zushuai Wei
12:00	12:15	Surface soil moisture spatio-temporal dynamics in southeastern South America observed by SMOS and modeled by ORCHIDEE	Romina Ruscica, Jan Polcher, Anna Sörensson, Mercedes Salvia, Maria Piles and Haydee Karszenbaum
12:15	12:30	On the evaluation of remotely sensed soil moisture - What are (the) errors?	Alexander Gruber, Clement Albergel, Amen Al-Yaari, Brian Barrett, Luca Brocca, Andreas Colliander, Michael Cosh, 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 and Simon Zwieback
12:30	13:30	Lunch	
13:30	15:00	Oral Session 6: Applications	Chair: Luca Brocca & Andreas Colliander
13:30	13:45	WMO Soil Moisture Demonstration Project (SMDP) Status, Plan and Potential Applications	John Qu, Xianjun Hao, Chenyang Xu, Ray Motha, Laurel Gutenberg, Robert Stefanski, Johan Malherbe, Michael Cosh and Wolfgang Wagner
13:45	14:00	Correcting Systematic Land Surface Modeling Error Using Remotely-Sensed Soil Moisture	Wade Crow
14:00	14:15	New opportunities for integrating global precipitation products based on Triple Collocation Analysis	Christian Massari, Wade Crow, Luca Brocca, Thierry Pellarin, Carlos Román-Cascón, Yann Kerr and Diego Fernández Prieto
14:15	14:30	Improving the accuracy of GPM rainfall estimates over the Tibetan Plateau using SMAP soil moisture product	Hui Lu, Wei Wang, Kun Yang and Fuqiang Tian
14:30	14:45	Mapping surface heat fluxes by assimilating SMAP soil moisture and GOES land surface temperature data	Yang Lu, Susan Steele-Dunne and Nick van de Giesen
14:45	15:00	Assessment of irrigation water from satellite soil moisture data: is it feasible?	Luca Brocca, Angelica Tarpanelli, Paolo Filippucci, Luca Ciabatta, Christian Massari, Stefania Camici, Ehsan Jalilvand, Sedighehalsadat Ghazi Zadeh Hashemi and Diego Fernández Prieto
15:00	15:30	Coffee Break	
15:30	17:00	Discussion Session	Chair: Tom Jackson
15:30	16:00	Topic 1: Is there a Need for Updating the GCOS accuracy requirements?	Moderator: Wolfgang Wagner
16:00	16:30	Topic 2: Recommendations for L-Band Follow-On Missions	Moderators: Susanne Mecklenburg & Matthias Drusch
16:30	16:45	Workshop Conclusions and Recommendations	Wolfgang Wagner & Tom Jackson
16:45	17:00	End of Workshop & Announcement of SMW 2018	Wolfgang Wagner & John Qu