

HS6.3: Remote sensing of soil moisture

Chat time: Wed, 06 May, 08:30–12:30 (CEST)

The general structure of our chat is organized as below.

- All the displays will be discussed in the order of their numbers. According to the allocated time in our session, each display will be presented and discussed for 3-5 minutes.
- Each presenting author is asked to introduce the display with 1-2 sentence (please prepare in advance). We sincerely ask other attendants not to post texts during this time.
- Afterwards, we will take questions from all attendants, and moderate the discussion. Please type '@author name' when ask questions.
- Please be aware that there is an opportunity to have interactive discussion with presented displays via the following link before and after the session chat:

<https://meetingorganizer.copernicus.org/EGU2020/displays/35547>

Chairperson: Jian Peng
D226—D244

D226 |

Assessing prospects of sub-daily radar-observations to improve the understanding of soil- and vegetation dynamics.

Raphael Quast, Wolfgang Wagner, Jean-Christophe Calvet, Clément Albergel, Bonan Bertrand, Luca Brocca, Paolo Filippucci, and Stephen Hobbs

D227 |

A performance assessment method for SAR satellite-derived surface soil moisture data using a soil-water balance model, meteorological observations, and soil pedotransfer functions.

John Beale, Toby Waine, Ronald Corstanje, and Jonathan Evans

D228 |

Exploiting the information in soil moisture and vegetation optical depth retrievals from passive microwave radiometry.

Sujay Kumar, Thomas Holmes, Rajat Bindlish, Richard de Jeu, and Christa Peters-Lidard

D229 |

Augmenting satellite-derived soil moisture with multiple data streams using machine learning
Rene Orth and **Sungmin Oh**

D231 |

Comparing Assimilation of Soil Moisture and C-band Backscatter in High Resolution Land Surface Model

Leqiang Sun, Stéphane Belair, Marco Carrera, and Bernard Bilodeau

D232 |

Hyper-resolution land surface modeling enables 30-m SMAP-based soil moisture at continental scales

Noemi Vergopolan, Nathaniel W. Chaney, Hylke E. Beck, Ming Pan, Justin Sheffield, and Eric F. Wood

D233 |

Solicited

ESA CCI and C3S Soil Moisture: latest product updates and climate assessments

Wouter Dorigo, Wolfgang Preimesberger, Adam Pasik, Alexander Gruber, Leander Moesinger, and Tracy Scanlon

D234 |

Robust retrieval of surface soil moisture across wide-ranging incidence angles over short crops: for application to NI-SAR

Seungbum Kim and Tienhao Liao

D235 |

Earth Surface Monitoring with Spire's New GNSS Reflectometry (GNSS-R) CubeSats

Vahid Freeman, Dallas Masters, Philp Jales, Stephan Esterhuizen, Ellie Ebrahimi, Vladimir Irisov, and Kais Ben Khadhra

D236 |

Towards long-term satellite root-zone soil moisture: 40-year Soil Water Index dataset from ESA CCI COMBINED Soil Moisture product.

Adam Pasik, Bernhard Bauer-Marschallinger, Wolfgang Preimesberger, Tracy Scanlon, Wouter Dorigo, and Sebastian Hahn

D238 |

A Spatial and Temporal Continuum Remotely Sensed Soil Moisture Dataset of the Tibet Plateau From 2002 to 2015

Yaokui Cui, Chao Zeng, Jie Zhou, and Xi Chen

D239 |

QA4SM: Development of a traceable online satellite soil moisture validation system

Wolfgang Preimesberger, Tracy Scanlon, Doris Baum, Zoltan Bakcsa, Alexander Boresch, and Wouter Dorigo

D240 |

Solicited

Groundwater dynamics retrievals in Africa using SMOS soil moisture measurements

Thierry Pellarin, Laurent Oxarango, Jean-Martial Cohard, Alban Depeyre, Basile Hector, Yann Kerr, and Jean-Pierre Vandervaere

D241 |

Irrigation and precipitation consistency with SMOS, SMAP, ESA-CCI, Copernicus, Neural Network SSM, AMSR-2 remotely sensed soil moisture

Chiara Corbari, nicola paciolla, Ahmad Al Bitar, Yann Kerr, and Marco Mancini

D242 |

From Monitoring to Forecasting the Land Surface Condition Using a Land Data Assimilation System: Application over the Contiguous United States

Anthony Mucia, Clément Albergel, Bertrand Bonan, Yongjun Zheng, and Jean-Christophe Calvet

D243 |

Sensitivity of carbon fluxes to flash drought based on long-term FLUXNET and satellite observations

Miao Zhang and Xing Yuan

D244 |

The application of FengYun-3 Microwave Radiation Imager soil moisture product in drought monitoring

Ruijing Sun, Yeping Zhang, and Shengli Wu

Chairperson: Patricia de Rosnay
D245—D261

D245 |

From hillslope to catchment scale hydrologic prediction in a semi-arid region with in-situ observations, satellite soil moisture products, and a distributed catchment model

In-Young Yeo, Ali Binesh, Garry Willgoose, Greg Hancock, and Omer Yeteman

D246 |

A data-drive model for the assessment of shallow landslides hazard with the integration of satellite soil moisture and rainfall data

Valerio Vivaldi, **Massimiliano Bordonni**, Luca Lucchelli, Beatrice Corradini, Luca Brocca, Luca Ciabatta, and Claudia Meisina

D247 |

A simple method for soil moisture calculation using data from ELBARA III passive radiometer and thermal inertia

Mateusz Lukowski, Lukasz Gluba, Anna Rafalska-Przysucha, Kamil Szewczak, and Bogusław Usowicz

D248 |

Satellite soil moisture improves rainfall just where needed

Luca Brocca, Stefania Camici, Christian Massari, Luca Ciabatta, Paolo Filippucci, Gabriele Villarini, and Yves Tramblay

D249 |

Improving 2-km drought monitoring by assimilating satellite and in-situ soil moisture into a distributed hydrological model in the Yangtze River basin

Han Yang, Lihua Xiong, and Chong-Yu Xu

D250 |

Remote sensing of rainfall at high spatial-temporal resolution through soil moisture

Paolo Filippucci, Luca Brocca, Angelica Tarpanelli, Christian Massari, Luca Ciabatta, Wolfgang Wagner, Bernhard Bauer-Marschallinger, and Carla Saltalippi

D251 |

Spatiotemporal Evaluation of Remote Sensing Derived Soil Moisture Deficit for the Sugarcane Crop: A Case Study for the Indo-Gangetic Basin

Anudeep Sure and Onkar Dikshit

D252 |

Improving soil moisture estimation through a dual-cycle assimilation strategy

Jiaxin Tian, Jun Qin, and Kun Yang

D253 |

Catchment-scale connection between vegetation accessible storage and satellite-derived Soil Water Index

Laurène Bouaziz, Susan Steele-Dunne, Jaap Schellekens, Albrecht Weerts, Jasper Stam, Eric Sprokkereef, Hessel Winsemius, Hubert Savenije, and Markus Hrachowitz

D254 |

Estimating soil moisture at various depths from near surface ESA CCI Soil Moisture

Manolis G. Grillakis, Aristeidis G. Koutroulis, **Christos Polykretis**, and Dimitrios D. Alexakis

D255 |

Characterising and assimilating surface soil moisture drydowns in the ORCHIDEE land-surface model

Nina Raoult, Catherine Otle, Philippe Peylin, and Vladislav Bastrikov

D256 |

Estimation of soil moisture from Sentinel data

Stefan Krebs Lange-Willman, Henning Skriver, and Inge Sandholt

D257 |

GNSS-based remote sensing: Innovative observation of key hydrological parameters in the Central Andes

Nikolaos Antonoglou, Bodo Bookhagen, Danilo Dadamia, Alejandro de la Torre, and Jens Wickert

D258 |

Assimilation of SMAP-enhanced and SMAP/Sentinel-1A/B soil moisture data into land surface models

Hyunglok Kim, Venkataraman Lakshmi, Sujay Kumar, and Yonghwan Kwon

D260 |

A Protocol for Establishing Soil Moisture Observations at the Complex Mountainous Region.

Jaehwan Jeong, Seongkeun Cho, Seungcheol Oh, Jongjin Baik, and Minha Choi

D261 |

Progress in evaluating satellite soil moisture products in Great Britain against COSMOS-UK and in-situ soil moisture measurements

Nevil Wyndham Quinn, Chris Newton, David Boorman, Michael Horswell, and Harry West

Chairperson: Luca Brocca

D262—D279

D262 |

Area-representative validation of remotely sensed high resolution soil moisture using a cosmic-ray neutron sensor

Dragana Panic, Isabella Pfeil, Andreas Salentinig, Mariette Vreugdenhil, Wolfgang Wagner, Ammar Wahbi, Emil Fulajtar, Hami Said, Trenton Franz, Lee Heng, and Peter Strauss

D263 |

Added-value of satellite soil moisture assimilation in hydrological modelling: an evaluation through a large experiment over Europe

Domenico De Santis, Christian Massari, Stefania Camici, Sara Modanesi, Luca Brocca, and Daniela Biondi

D264 |

The International Soil Moisture Network in assistance of EO soil moisture validation products, services and models

Daniel Aberer, Irene Himmelbauer, Lukas Schremmer, Ivana Petrakovic, Wouter Dorigo, Philippe Goryl, and Roberto Sabia

D265 |

Remote Sensing of the Soil Moisture at the Agricultural Test Field in Volgograd Region with The Using Sentinel-1 Observations and Neural Network-Based Algorithm

Konstantin Muzalevskiy, Anatoly Zeyliger, Ekaterina Zinchenko, **Olga Ermolaeva**, Viktor Melikhov, and Aleksey Novikov

D266 |

The synergistic use of Sentinel SAR and optical remote sensing for mapping high-resolution soil moisture

Jianxiu Qiu

D267 |

Assimilation of soil moisture data for improving streamflow prediction: Is there a role for the hydrological model structure?

Aruna Kumar Nayak, Basudev Biswal, and Kulamulla Parambath Sudheer

D268 |

Dynamic time warping analysis of the evolution of SMOS surface and in-situ soil moisture time series

Christoph Herbert, Miriam Pablos, Mercedes Vall-llossera, and Adriano Camps

D269 |

Evaluating the potential of Sentinel-1 images for the estimation of soil moisture on an alluvial Fan

Abhilash Singh, Kumar Gaurav, and Shashi Kumar

D270 |

Subsurface scattering effects in the ASCAT soil moisture product

Sebastian Hahn, Wolfgang Wagner, Raphael Quast, and Andreas Salentinig

D271 |

Assessing simultaneous mono- and bistatic airborne radar observations for soil moisture retrieval

Emma Tronquo, Hans Lievens, and Niko E.C. Verhoest

D272 |

Estimation of Soil Moisture Content Using Deep Learning and High-Resolution Satellite Imagery (Sentinel-1 and 2)

Soo-Jin Lee and Yang-Won Lee

D273 |

Assessment of surface soil moisture distribution across small scale tomato fields using L band SAR data

Punithraj Gururaj, Pruthviraj Umesh, and Amba Shetty

D274 |

Retrieving soil-water retention curve at the wet part by remote sensing

Zampela Pittaki-Chrysodonta, Per Moldrup, Bo V. Iversen, Maria Knadel, and Lis W. de Jonge

D275 |

Using Unmanned Aerial Vehicle to Obtain Digital Images and Estimating In-Situ Soil Water Content

Ching-Hsiung Wang, Hong-Ru Lin, Jyun-Lin Chen, Shao-Yang Huang, and Jet-Chau Wen

D276 |

Combining time series of Sentinel-1 and -2 with in-situ data for estimating soil moisture at crop field scale

Marc Padilla, Ana Pérez, and Mirta Pinilla

D277 |

High resolution soil moisture estimation and evaluation from Earth observation

Jian Peng, Tristan Quaife, Ewan Pinnington, Jonathan Evans, Phil Harris, Emma Robinson, Eleanor Blyth, and Simon Dadson

D278 |

Combined use of Sentinel SAR and optical data for soil moisture estimation

Giulia Graldi, Simone Bignotti, Marco Bezzi, and Alfonso Vitti

D279 |

Examination of Dielectric Models in AMSR2 Soil Moisture Estimation Algorithm for Japanese and Cambodian Soils

Kumiko Tsujimoto and Tetsu Ohta
