

Prof. MUSTAFA TUĞRUL YILMAZ

Personal Information

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International Researcher IDs

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ORCID: 0000-0001-5094-1878

Publons / Web Of Science ResearcherID: W-4730-2017

ScopusID: 57191906140

Yoksis Researcher ID: 193227

Research Areas

Surface Water Engineering, Hydrology, Water Resources Planning and Management, Groundwater Engineering

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2024 - Continues
Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2018 - 2024

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2018 - 2018

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2014 - 2018

Lecturer, Middle East Technical University, Faculty of Engineering, Department of Civil Engineering, 2013 - 2014

Courses

ESTIMATION AND ANALYSIS OF SPATIO-TEMPORAL HYDROMETEOROLOGICAL DATA, Undergraduate, 2022 - 2023

UNCERTAINTY AND DATA ANALYSIS, Undergraduate, 2017 - 2018

MODELING IN STATISTICAL HYDROLOGY, Postgraduate, 2018 - 2019

ENVIRONMENTAL ENGINEERING HYDROLOGY, Undergraduate, 2018 - 2019

Advising Theses

Yılmaz M. T., Yücel İ., Accuracy analyses of numeric weather prediction-based stratiform and convective precipitation short-term forecasts over Turkey, Postgraduate, B.AYDIN(Student), 2023

Yılmaz M. T., Assessing the performance of a novel HBV model: a comparative analysis with existing HBV-Light model and climate projections, Postgraduate, S.YILMAZ(Student), 2023

Yılmaz M. T., Multispectral multi-temporal crop cover classification over türkiye using random forest algorithm, Postgraduate, E.DÖNMEZ(Student), 2022

Yılmaz M. T., Yücel İ., Evaluation of the WRF & WRF-Hydro modeling system to better understand the

hydrometeorological interactions over humid and semi-arid climate conditions, Doctorate, E.DÜZENLİ(Student), 2022

Yılmaz M. T., Investigating the effects of climate change on the surface runoff potential over Kizilirmak basin, Postgraduate, N.BURAK(Student), 2022

Yılmaz M. T., Impact of climate change over the variability of drought characteristics over 25 basins of Turkey, Postgraduate, N.ERHAN(Student), 2022

YILMAZ M. T., Estimation of wheat yields by using remotely sensed and modeled agro-meteorological data-driven statistical and crop growth models, Doctorate, B.BULUT(Student), 2021

YILMAZ M. T., Evaluating and merging model- and satellite-based precipitation products over varying climate and topography, Doctorate, M.Amjad(Student), 2020

Yılmaz M. T., Öztürk K., Estimation of bias-corrected high-resolution radar precipitation maps using the radar and rain gauge network over Turkey, Postgraduate, K.PATAKCHI(Student), 2020

Yılmaz M. T., Detection of reservoir water levels using landsat remote sensing data over Ermenek and Altunkaya dams, Postgraduate, A.ULVİ(Student), 2019

YILMAZ M. T., Investigation of added utility of nonlinear techniques in rescaling soil moisture datasets, Doctorate, M.HESAMI(Student), 2019

Yılmaz M. T., Intercomparison of GRACE-based groundwater level change and in-situ measurements over Central Anatolia Basins, Turkey, Postgraduate, İ.GÜL(Student), 2019

YILMAZ M. T., Predictability of monthly streamflow discharge using remotesensing precipitation data by data driven models, Postgraduate, M.ALİ(Student), 2017

YILMAZ M. T., Decadal variability analysis of extreme precipitation in Turkey and its relationship with teleconnection patterns, Postgraduate, E.DÜZENLİ(Student), 2017

YILMAZ M. T., Evaluation of the consistency of station-based soil moisture measurements with hydrological model and remote sensing observations over Turkey, Postgraduate, B.BULUT(Student), 2015

Designed Lessons

Yılmaz M. T., ESTIMATION AND ANALYSIS OF SPATIO-TEMPORAL HYDROMETEOROLOGICAL DATA, Undergraduate, 2021 - 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **High-Resolution Climate Simulations Over the Eastern Mediterranean Black Sea Region Using the Pseudo-Global Warming Method With a CMIP6 Ensemble**
Bağçacı S. Ç., YÜCEL İ., YILMAZ M. T., Şen O. T., Ludwig P.
Journal of Geophysical Research: Atmospheres, vol.129, no.10, 2024 (SCI-Expanded)
- II. **Historical variability of Coupled Model Intercomparison Project Version 6 (CMIP6)-driven surface winds and global reanalysis data for the Eastern Mediterranean**
Çetin I., YÜCEL İ., YILMAZ M. T., ÖnoI B.
Theoretical and Applied Climatology, vol.155, no.5, pp.4101-4121, 2024 (SCI-Expanded)
- III. **Investigating the comparative utility of ECMWF precipitation forecasts as an alternative to reanalysis data**
Amjad M., YILMAZ M. T., YÜCEL İ., YILMAZ K. K., Öztürk K.
Hydrological Sciences Journal, 2024 (SCI-Expanded)
- IV. **An explainable two-stage machine learning approach for precipitation forecast**
Senocak A. U. G., YILMAZ M. T., KALKAN S., YÜCEL İ., Amjad M.
Journal of Hydrology, vol.627, 2023 (SCI-Expanded)
- V. **Impacts of Climate Change on Extreme Climate Indices in Türkiye Driven by High-Resolution Downscaled CMIP6 Climate Models**
Gumus B., Oruc S., Yücel I., Yilmaz M. T.

SUSTAINABILITY, vol.15, pp.1-38, 2023 (SCI-Expanded)

- VI. **CMIP6 Earth System Models Project Greater Acceleration of Climate Zone Change Due To Stronger Warming Rates**
Bayar A. S., YILMAZ M. T., YÜCEL İ., Dirmeyer P.
Earth's Future, vol.11, no.4, 2023 (SCI-Expanded)
- VII. **Time-independent bias correction methods compared with gauge adjustment methods in improving radar-based precipitation estimates**
Yousefi K. P., YILMAZ M. T., Öztürk K., YÜCEL İ., YILMAZ K. K.
Hydrological Sciences Journal, vol.68, no.14, pp.1963-1983, 2023 (SCI-Expanded)
- VIII. **Global spatiotemporal consistency between meteorological and soil moisture drought indices**
HESAMI AFSHAR M., Bulut B., DÜZENLİ E., Amjad M., YILMAZ M. T.
Agricultural and Forest Meteorology, vol.316, 2022 (SCI-Expanded)
- IX. **Contribution of the satellite-data driven snow routine to a karst hydrological model**
ÇALLI S. S., Çallı K. Ö., Tuğrul Yılmaz M. T., ÇELİK M.
JOURNAL OF HYDROLOGY, vol.607, 2022 (SCI-Expanded)
- X. **Sensitivity of WRF-derived hydrometeorological extremes to sea surface temperatures in regions with complex topography and diverse climate**
Pilatin H., YÜCEL İ., DÜZENLİ E., YILMAZ M. T.
Atmospheric Research, vol.264, 2021 (SCI-Expanded)
- XI. **Improving WRF-Hydro runoff simulations of heavy floods through the sea surface temperature fields with higher spatio-temporal resolution**
Kilicarslan B. M., YÜCEL İ., Pilatin H., DÜZENLİ E., YILMAZ M. T.
HYDROLOGICAL PROCESSES, vol.35, no.9, 2021 (SCI-Expanded)
- XII. **Intercomparison of the expected change in the temperature and the precipitation retrieved from CMIP6 and CMIP5 climate projections: A Mediterranean hot spot case, Turkey**
Bağcıacı S. Ç., Yücel İ., Düzenli E., Yılmaz M. T.
ATMOSPHERIC RESEARCH, vol.256, 2021 (SCI-Expanded)
- XIII. **Comparative Evaluation of Microwave L-Band VOD and Optical NDVI for Agriculture Drought Detection over Central Europe**
Afshar M., Al-Yaari A., YILMAZ M. T.
REMOTE SENSING, vol.13, no.7, 2021 (SCI-Expanded)
- XIV. **Evaluating the performance of a WRF initial and physics ensemble over Eastern Black Sea and Mediterranean regions in Turkey**
Düzenli E., Yücel İ., Pilatin H., Yılmaz M. T.
Atmospheric Research, vol.248, 2021 (SCI-Expanded)
- XV. **Climate change impact assessment on mild and extreme drought events using copulas over Ankara, Turkey**
Afshar M., Sorman A. U., Tosunoglu F., Bulut B., YILMAZ M. T., MEHR A. D.
THEORETICAL AND APPLIED CLIMATOLOGY, vol.141, no.3-4, pp.1045-1055, 2020 (SCI-Expanded)
- XVI. **Performance evaluation of satellite- and model-based precipitation products over varying climate and complex topography**
Amjad M., YILMAZ M. T., YÜCEL İ., YILMAZ K. K.
JOURNAL OF HYDROLOGY, vol.584, 2020 (SCI-Expanded)
- XVII. **Impact of Rescaling Approaches in Simple Fusion of Soil Moisture Products**
Afshar M., YILMAZ M. T., Crow W. T.
WATER RESOURCES RESEARCH, vol.55, no.9, pp.7804-7825, 2019 (SCI-Expanded)
- XVIII. **Evaluation of Remotely-Sensed and Model-Based Soil Moisture Products According to Different Soil Type, Vegetation Cover and Climate Regime Using Station-Based Observations over Turkey**
Bulut B., YILMAZ M. T., Afshar M., Sorman A. U., YÜCEL İ., Cosh M. H., Simsek O.
REMOTE SENSING, vol.11, no.16, 2019 (SCI-Expanded)
- XIX. **Decadal variability analysis of extreme precipitation in Turkey and its relationship with**

teleconnection patterns

Duzenli E., Tabari H., Willems P., YILMAZ M. T.

Hydrological Processes, vol.32, no.23, pp.3513-3528, 2018 (SCI-Expanded)

- XX. **The added utility of nonlinear methods compared to linear methods in rescaling soil moisture products**
Afshar M., YILMAZ M. T.
REMOTE SENSING OF ENVIRONMENT, vol.196, pp.224-237, 2017 (SCI-Expanded)
- XXI. **Uydu Kaynaklı Yağmur Verilerinin Hata Oranlarının Deniz Kıyılarına Olan Uzaklığına Bağlı Analizi**
Yılmaz m., Amjad m., Bulut b., YILMAZ M. T.
Teknik Dergi, vol.484, pp.7993-8005, 2017 (SCI-Expanded)
- XXII. **Monthly flooded area classification using low resolution SAR imagery in the Sudd wetland from 2007 to 2011**
Wilusz D. C., Zaitchik B. F., Anderson M. C., Hain C. R., YILMAZ M. T., Mladenova I. E.
REMOTE SENSING OF ENVIRONMENT, vol.194, pp.205-218, 2017 (SCI-Expanded)
- XXIII. **Investigation of the dependence of satellite-based precipitation estimate errors to distance from the coastline Uydu Kaynaklı Yağmur Verilerinin Hata Oranlarının Deniz Kıyılarına Olan Uzaklığa Bağlı Analizi**
YILMAZ M., Amjad M., Bulut B., YILMAZ M. T.
Teknik Dergi/Technical Journal of Turkish Chamber of Civil Engineers, vol.28, no.3, pp.7993-8005, 2017 (SCI-Expanded)
- XXIV. **Türkiye deki 2007 ve 2013 Yılı Kuraklıklarının NOAH Hidrolojik Modeli ile İncelenmesi**
bulut b., YILMAZ M. T.
Teknik Dergi, vol.27, no.4, pp.7619-7634, 2016 (SCI-Expanded)
- XXV. **Analysis of the 2007 and 2013 Droughts in Turkey by NOAH Hydrological Model**
Bulut B., YILMAZ M. T.
TEKNİK DERGI, vol.27, no.4, pp.7619-7634, 2016 (SCI-Expanded)
- XXVI. **Conditional Copula-Based Spatial-Temporal Drought Characteristics Analysis-A Case Study over Turkey**
Afshar M., Sorman A. U., YILMAZ M. T.
WATER, vol.8, no.10, 2016 (SCI-Expanded)
- XXVII. **Impact of Model Relative Accuracy in Framework of Rescaling Observations in Hydrological Data Assimilation Studies**
YILMAZ M. T., Crow W. T., Ryu D.
JOURNAL OF HYDROMETEOROLOGY, vol.17, no.8, pp.2245-2257, 2016 (SCI-Expanded)
- XXVIII. **The Evaporative Stress Index as an indicator of agricultural drought in Brazil: An assessment based on crop yield impacts**
Anderson M. C., Zolin C. A., Sentelhas P. C., Hain C. R., Semmens K., YILMAZ M. T., Gao F., Otkin J. A., Tetrault R.
REMOTE SENSING OF ENVIRONMENT, vol.174, pp.82-99, 2016 (SCI-Expanded)
- XXIX. **Optimal averaging of soil moisture predictions from ensemble land surface model simulations**
Crow W. T., Su C. -, Ryu D., YILMAZ M. T.
WATER RESOURCES RESEARCH, vol.51, no.11, pp.9273-9289, 2015 (SCI-Expanded)
- XXX. **Comparison of satellite-derived LAI and precipitation anomalies over Brazil with a thermal infrared-based Evaporative Stress Index for 2003-2013**
Anderson M. C., Zolin C. A., Hain C. R., Semmens K., YILMAZ M. T., Gao F.
JOURNAL OF HYDROLOGY, vol.526, pp.287-302, 2015 (SCI-Expanded)
- XXXI. **Diagnosing Neglected Soil Moisture Source-Sink Processes via a Thermal Infrared-Based Two-Source Energy Balance Model**
Hain C. R., Crow W. T., Anderson M. C., YILMAZ M. T.
JOURNAL OF HYDROMETEOROLOGY, vol.16, no.3, pp.1070-1086, 2015 (SCI-Expanded)
- XXXII. **An intercomparison of remotely sensed soil moisture products at various spatial scales over the Iberian Peninsula**

- Parinussa R., Yilmaz M. T., Anderson M., Hain C., de Jeu R.
Hydrological Processes, vol.28, no.18, pp.4865-4876, 2014 (SCI-Expanded)
- XXXIII. **Evaluation of Assumptions in Soil Moisture Triple Collocation Analysis**
YILMAZ M. T., Crow W. T.
JOURNAL OF HYDROMETEOROLOGY, vol.15, no.3, pp.1293-1302, 2014 (SCI-Expanded)
- XXXIV. **Comparison of prognostic and diagnostic surface flux modeling approaches over the Nile River basin**
YILMAZ M. T., Anderson M. C., Zaitchik B., Hain C. R., Crow W. T., Ozdogan M., Chun J. A., Evans J.
WATER RESOURCES RESEARCH, vol.50, no.1, pp.386-408, 2014 (SCI-Expanded)
- XXXV. **The Auto-Tuned Land Data Assimilation System (ATLAS)**
Crow W. T., YILMAZ M. T.
WATER RESOURCES RESEARCH, vol.50, no.1, pp.371-385, 2014 (SCI-Expanded)
- XXXVI. **The optimality of potential rescaling approaches in land data assimilation**
Tugrul Yilmaz M. T., Crow W. T.
Journal of Hydrometeorology, vol.14, no.2, pp.650-660, 2013 (SCI-Expanded)
- XXXVII. **An objective methodology for merging satellite- and model-based soil moisture products**
Yilmaz M. T., Crow W., Anderson M., Hain C.
Water Resources Research, vol.48, no.11, 2012 (SCI-Expanded)
- XXXVIII. **Towards an integrated soil moisture drought monitor for East Africa**
Anderson W., Zaitchik B., Hain C., Anderson M., Yilmaz M. T., Mecikalski J., Schultz L.
Hydrology and Earth System Sciences, vol.16, no.8, pp.2893-2913, 2012 (SCI-Expanded)
- XXXIX. **Reducing water imbalance in land data assimilation: Ensemble filtering without perturbed observations**
Yilmaz M. T., Delsole T., Yilmaz M. T.
Journal of Hydrometeorology, vol.13, no.1, pp.413-420, 2012 (SCI-Expanded)
- XL. **The impact of land surface temperature on soil moisture anomaly detection from passive microwave observations**
Parinussa R., Holmes T., Yilmaz M. T., Crow W.
Hydrology and Earth System Sciences, vol.15, no.10, pp.3135-3151, 2011 (SCI-Expanded)
- XLI. **Improving land data assimilation performance with a water budget constraint**
Yilmaz M. T., Delsole T., Houser P. R.
Journal of Hydrometeorology, vol.12, no.5, pp.1040-1055, 2011 (SCI-Expanded)
- XLII. **Comparison of vegetation water contents derived from shortwave-infrared and passive-microwave sensors over central Iowa**
Hunt E. R., Li L., Yilmaz M. T., Jackson T. J.
Remote Sensing of Environment, vol.115, no.9, pp.2376-2383, 2011 (SCI-Expanded)
- XLIII. **Predictability of seasonal precipitation using joint probabilities**
Yilmaz M. T., DelSole T.
Journal of Hydrometeorology, vol.11, no.2, pp.533-541, 2010 (SCI-Expanded)
- XLIV. **Optimally merging precipitation to minimize land surface modeling errors**
Tugrul Yilmaz M. T., Houser P., Shrestha R., Anantharaj V. G.
Journal of Applied Meteorology and Climatology, vol.49, no.3, pp.415-423, 2010 (SCI-Expanded)
- XLV. **Remote sensing of vegetation water content from equivalent water thickness using satellite imagery**
Yilmaz M. T., Hunt Jr. E. R., Jackson T. J.
Remote Sensing of Environment, vol.112, no.5, pp.2514-2522, 2008 (SCI-Expanded)
- XLVI. **Vegetation water content during SMEX04 from ground data and Landsat 5 Thematic Mapper imagery**
Yilmaz M. T., Hunt Jr. E. R., Goins L. D., Ustin S. L., Vanderbilt V. C., Jackson T. J.
Remote Sensing of Environment, vol.112, no.2, pp.350-362, 2008 (SCI-Expanded)

Articles Published in Other Journals

- I. **Added utility of temperature zone information in remote sensing-based large scale crop mapping**
Donmez E., YILMAZ M. T., YÜCEL İ.
Remote Sensing Applications: Society and Environment, vol.35, 2024 (ESCI)
- II. **Impacts of Biotechnologically Developed Microorganisms on Ecosystems**
Celebi D., YILMAZ M. T., DÜNDAR M.
Eurobiotech Journal, vol.7, no.4, pp.196-205, 2023 (ESCI)
- III. **Türkiye deki 2000 2015 yılları arasındaki evapotranspirasyonun Noah hidrolojik modeli ile incelenmesi**
YILMAZ M. T., Bulut B.
Dicle Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi, vol.7, pp.225-236, 2016 (Peer-Reviewed Journal)
- IV. **Üçlü Eşleştirme Yöntemi ile Uydu ve Hidrolojik Model Kaynaklı Toprak Nemi Değerlerinin Hata Oranlarının Bulunması**
YILMAZ M. T.
Çukurova Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, vol.31, pp.231-240, 2016 (Peer-Reviewed Journal)
- V. **Enhancing model-based land surface temperature estimates using multiplatform microwave observations**
Holmes T. R. H., Crow W. T., Yilmaz M. T., Jackson T. J., Basara J. B.
Journal of Geophysical Research Atmospheres, vol.118, no.2, pp.577-591, 2013 (Scopus)

Books & Book Chapters

- I. **Mapping and Monitoring of Soil Moisture, Evapotranspiration and Agricultural Drought**
Yağci A. L., Yilmaz M. T.
in: Agro-geoinformatics – Theory and Practice, Liping Di, Üstündağ Berk, Editor, Springer, Bern, pp.299-320, 2021

Refereed Congress / Symposium Publications in Proceedings

- I. **VARIABILITY OF PRECIPITATION UNDER THE EXPECTED CHANGE IN CLIMATE USING CMIP5 PROJECTIONS OVER ENTIRE TURKEY**
Yılmaz M. T., Ersoy E., Yücel İ.
14TH INTERNATIONAL CONFERENCE ON HYDROSCIENCE & ENGINEERING, İzmir, Turkey, 26 May 2022, pp.1-12
- II. **IMPROVING WRF-HYDRO EXTREME RUNOFF SIMULATIONS THROUGH THE SEA SURFACE TEMPERATURE FIELDS WITH HIGHER SPATIOTEMPORAL RESOLUTION**
Kılıçarslan B., Yılmaz M. T., Yücel İ.
14TH INTERNATIONAL CONFERENCE ON HYDROSCIENCE & ENGINEERING, İzmir, Turkey, 26 - 27 May 2022, pp.303-311
- III. **Evaluation of a Hydro-Meteorological Model System for Flood Forecasting of a Mediterranean Basin in Turkey**
Kılıçarslan B., Düzenli E., Pilatin H., YÜCEL İ., YILMAZ M. T.
EGU General Assembly 2020, 4 - 08 May 2020
- IV. **Estimation of Wheat Yield using Remotely Sensed and Modeled Data over Turkey**
bulut b., YILMAZ M. T., Afshar M.
EGU General Assembly 2020, 4 - 08 May 2020
- V. **Production of a High-Resolution Improved Radar Precipitation Estimation Map Using Gauge Adjustment Bias Correction Methods**
Yousefi K. P., YILMAZ M. T., Ozturk K., YÜCEL İ., YILMAZ K. K.
EGU General Assembly 2020, 4 - 08 May 2020

- VI. **Evaluation of the performance of WRF model in extreme precipitation estimation concerning the changing model configuration and the spatial and temporal variations**
Duzenli E., Pilatin H., YÜCEL İ., Kılıçarslan B., YILMAZ M. T.
EGU General Assembly 2020, 4 - 08 May 2020
- VII. **Evaluation of gauge adjustment methods in improving radar precipitation estimation quality over Antalya radar in Turkey.**
Yousufi K. P., YILMAZ M. T., Ozturk K., YÜCEL İ., YILMAZ K. K.
IV. Meteorolojik Uzaktan Algılama Sempozyumu, Turkey, 11 - 15 November 2019
- VIII. **Validation of TMPA and ECMWF Precipitation Estimates Using Gauge Based Observations over West Azarbayjan province of Iran**
Afshar M., amjad m., bulut b., Duzenli E., Yousufi K. P., YILMAZ M. T.
The 1st International and 4th National Congress on Iranian Irrigation and Drainage, 13 - 14 November 2019
- IX. **Validation of TMPA and ECMWF Precipitation Estimates Using Gauge Based Observations over West Azarbayjan province of Iran**
Hesamı Afshar M., Amjad M., Bulut B., Düzenli E., Patakchi Yousufi K., Yılmaz M. T.
The 1st International and 4th National Congress on Iranian Irrigation and Drainage, Urmia, Iran, 13 - 14 November 2019
- X. **TMPA VE ECMWF yağış verilerinin yer gözlem verileriyle doğrulanması**
amjad m., Duzenli E., Afshar M., bulut b., Senocak A. U. G., YILMAZ K. K., YILMAZ M. T., YÜCEL İ.
10. Ulusal Hidroloji Kongresi, Turkey, 9 - 12 October 2019
- XI. **İklim Değişikliğinin Kuzey Ege Havzası Su Potansiyeline Olan Etkisinin Araştırılması**
YILMAZ M. T., bulut b., Afshar M., YÜCEL İ., Aras M., Ozaltın A. M., Dogan N., Barkis N., Tanir T., Ozcam B.
10. Ulusal Hidroloji Kongresi, Turkey, 9 - 12 October 2019
- XII. **Mahsul Büyüme Durumunun İzlenmesi İçin Iha Görüntülerinden Elde Edilen Farklı Bitki Örtüsü İndekslerinin Değerlendirilmesi**
Feizolahpour F., Afshar M., Duzenli E., Besharat S., YILMAZ M. T.
X. Türkiye Ulusal Fotogrametri ve Uzaktan Algılama Birliği (TUFUAB) Teknik Sempozyumu, Turkey, 25 - 27 April 2019
- XIII. **Linear and Nonlinear Responses of Turkish Extreme Rainfall Oscillations to Large-Scale Atmospheric Circulations**
Duzenli E., tabari H., willems p., YILMAZ M. T.
EGU General Assembly 2019, 7 - 12 April 2019
- XIV. **The Evaluation of Remotely-Sensed and Model-Based Soil Moisture Products According to Different Soil Type, Vegetation Cover and Climate Regime Using Station-Based Observations over Turkey**
bulut b., Afshar M., YILMAZ M. T.
EGU General Assembly 2019, 7 - 12 April 2019
- XV. **The Evaluation of Remotely-Sensed and Model-Based Soil Moisture Products According to Different Soil Type, Vegetation Cover and Climate Regime Using Station-Based Observations over Turkey**
Bulut B., Hesamı Afshar M., Yılmaz M. T.
EGU General Assembly 2019, Vienna, Austria, 7 - 12 April 2019
- XVI. **Uncertainty Assessment of Satellite- and Model-based Precipitation Products over Complex Terrain of Turkey**
amjad m., YILMAZ M. T., YÜCEL İ., YILMAZ K. K.
EGU General Assembly 2019, 7 - 12 April 2019
- XVII. **Validation of Remote Sensing- and Model-Based Soil Moisture Products Using Station-Based Observations Over Turkey**
bulut b., Afshar M., YILMAZ M. T.
ESA CCI Soil Moisture user workshop, 15 November 2018 - 15 November 2019
- XVIII. **Comparison of rescaling techniques in the framework of merging soil moisture time series**
Afshar M., bulut b., YILMAZ M. T.
ESA CCI Soil Moisture user workshop, 15 November 2018

- XIX. ANALYSIS OF TERRESTRIAL WATER STORAGE CHANGE USING GRACE-BASED OBSERVATIONS OVER EUPHRATES-TIGRIS BASIN**
YILMAZ M. T., Karasu İ., YILMAZ K. K., Tüfekçi Avşar N., Selek B., Aras M., Özaltın A. M., Duygu M. B., Kirmencioğlu B.
Türkiye Ulusal Jeodezi ve Jeofizik Birliği Bilimsel Kongresi, İzmir, Turkey, 30 May - 02 June 2018, pp.47-50
- XX. Inter-comparison and Accuracy Assessment of Satellite and Model Precipitation Products**
amjad m., YILMAZ M. T., YÜCEL İ., YILMAZ K. K.
EGU General Assembly 2018, 8 - 13 April 2018
- XXI. Evaluation of Relations among Drought Indices and Remotely Sensed Soil**
bulut b., Afshar M., YILMAZ M. T.
EGU General Assembly 2018, 8 - 13 April 2018
- XXII. Assessing Drought Using Cordex Ensemble Climate Models In Mediterranean Climate Region Of Turkey**
poyraz a., YÜCEL İ., aziz r., YILMAZ M. T.
Eurepean Geophysical Union Congress (EGU) 2018, 8 - 13 April 2018
- XXIII. Assessment of Environmental Flows under Human Intervention and Climate Change Conditions in a Mediterranean Watershed**
YILMAZ M. T., ALP E., Aras M., Özaltın A. M., Sarıcan Y., Afsar M., Bulut B., Ersoy E. N., Karasu İ. G., Önen A.
AGU Fall Meeting 2017, 11 - 15 December 2017
- XXIV. Assessment of Environmental Flows under Human Intervention and Climate Change Conditions in a Mediterranean Watershed**
YILMAZ M. T., alp E., aras m., özaltın a. m., sarıcan y., Afshar M., bulut b., ersoy n. e., karasu g. i., onen a.
American Geophysical Union Fall Meeting, 11 - 15 December 2017
- XXV. Evaluation of Satellite and Model Precipitation Products Over Turkey**
amjad m., YILMAZ M. T.
American Geophysical Union Fall Meeting, 11 - 15 December 2017
- XXVI. The Added Utility of Hydrological Model and Satellite Based Datasets in Agricultural Drought Analysis over Turkey**
bulut b., Afshar M., YILMAZ M. T.
American Geophysical Union Fall Meeting, 11 - 15 December 2017
- XXVII. TRMM VE GPM UZAKTAN ALGILAMA VE ECMWF NUMERİK MODEL KAYNAKLI YAĞIŞ VERİLERİNİN DOĞRULANMASI**
YILMAZ M. T., amjad m., YÜCEL İ., bulut b.
UZALMET III. Meteorolojik Uzaktan Algılama Sempozyumu, Turkey, 16 - 19 October 2017
- XXVIII. Establishing a Critical Zone Observatory site in Turkey**
DEMİR G., AKYÜREK S. Z., BİNLEY A., YÜCEL İ., KENTEL ERDOĞAN E., MERZİ N., YILMAZ M. T., YANMAZ A. M.
European Geosciences Union General Assembly 2017, 23 - 28 April 2017
- XXIX. Investigation of the impact of the nonlinear relations among soil moisture products over data fusion process**
Afshar M., bulut b., YILMAZ M. T.
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- XXX. Analysis of Agricultural Drought Using NOAA Root Zone Soil Moisture Estimates and MODIS Based NDVI Values over Turkey**
bulut b., Afshar M., YILMAZ M. T.
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- XXXI. Effect of Temporal Downscaling of Wind Data on Hindcasting Extreme Wave Events and Wind Power Density Studies over the Black Sea**
BAYKAL C., GÜLER H. G., ÖZYURT G., ak g. h., kirezci ç., YILMAZ M. T.
American Geophysical Union Fall Meeting 2016, 12 - 16 December 2016
- XXXII. Evaluation of GRACE based groundwater storage change information at Konya Closed Basin Turkey using remote sensing and in situ measurements**
YILMAZ K. K., Saber M., YILMAZ M. T.

- American Geophysical Union Fall Meeting 2016, 12 - 16 December 2016
- XXXIII. **Effect Of Temporal Downscaling Methods of Long Term Wind Data on The Design Wave Parameters in the Black Sea**
ÖZYURT G., BAYKAL C., GÜLER H. G., YILMAZ M. T., AK H.
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- XXXIV. **Effect of Temporal Downscaling Methods of Long Term Wind Data on the Design Wave Parameters in the Black Sea**
ÖZYURT G., GÜLER H. G., BAYKAL C., AK G. H., YILMAZ M. T.
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- XXXV. **Evaluating the utility obtained by using radar based precipitation for prediction of flood events in western Black Sea basins of Turkey**
YÜCEL İ., önen a., YILMAZ M. T., erdem e.
The 9th European Conference on Radar in Meteorology and Hydrology, 10 - 14 October 2016
- XXXVI. **Estimation of Radar Based High Resolution Precipitation Product over Turkey**
YILMAZ M. T., Öztürk K., YÜCEL İ., YILMAZ K. K.
The 9th European Conference on Radar in Meteorology and Hydrology, 10 - 14 October 2016
- XXXVII. **Investigation of the relation between the return periods of major drought characteristics using copula functions**
afsar m. h., ŞORMAN A. Ü., YILMAZ M. T.
EGU General Assembly 2016, 17 - 22 April 2016
- XXXVIII. **Evaluation of Groundwater Storage changes at Konya Closed Basin Turkey using GRACE based and in situ measurements**
YILMAZ K. K., saber m., YILMAZ M. T.
EGU General Assembly 2016, 17 - 22 April 2016
- XXXIX. **Initial assessment of in situ based soil moisture observations over Turkey**
bulut b., cosh m., mladenova i., YILMAZ M. T.
EGU General Assembly 2016, 17 - 22 April 2016
- XL. **Analysis of long term trends of precipitation estimates acquired using radar network in Turkey**
YILMAZ M. T., YÜCEL İ., YILMAZ K. K.
EGU General Assembly 2016, 17 - 22 April 2016
- XLI. **Assessment of linear and nonlinear Techniques in soil moisture time series rescaling**
mehdi husami a., YILMAZ M. T.
EGU General Assembly 2016, 17 - 22 April 2016
- XLII. **Inter comparison and accuracy assessment of TRMM 3B42 products over Turkey**
amjad m., YILMAZ M. T.
EGU General Assembly 2016, 17 - 22 April 2016
- XLIII. **Quality control of station based soil moisture observations retrieved over Turkey**
bulut b., YILMAZ M. T., micheal c., iliana m.
American Geophysical Union Fall Meeting 2015, 14 - 18 December 2015
- XLIV. **The Added Utility Of Nonlinear Techniques In Rescaling Soil Moisture Time Series**
madhi a., YILMAZ M. T.
American Geophysical Union Fall Meeting 2015, 14 - 18 December 2015
- XLV. **Accuracy assessment of TRMM 3B42 V6 and V7 products using station data over various topographical regions in Turkey**
muhammad a., YILMAZ M. T.
American Geophysical Union Fall Meeting 2015, 14 - 18 December 2015
- XLVI. **Tropical Rainfall Measuring Mission Uydu Kaynaklı Yağmur Verilerinin Yer Gözlemleri ile Karşılaştırılması**
YILMAZ M. T., muhammad a., meriç s.
II. Meteorolojik Uzaktan Algılama Sempozyumu, Antalya, 3-5 Kasim 2015, Turkey, 3 - 05 November 2015
- XLVII. **Model accuracy impact through rescaled observations in hydrological data assimilation studies**

- YILMAZ M. T., wade c., dongryeol r.
EGU General Assembly 2015, 12 - 17 April 2015
- XLVIII. **Optimal averaging of soil moisture predictions from ensemble land surface model simulations**
wade c., ChunHsu S., dongryeol r., YILMAZ M. T.
EGU General Assembly 2015, 12 - 17 April 2015, vol.0
- XLIX. **Quality control of station based soil moisture observations over Turkey**
YILMAZ M. T., bulut b., micheal c., iliana m.
EGU General Assembly 2015, 12 - 17 April 2015
- L. **Impact of the difference between observation and model seasonality and anomaly components on hydrological data assimilation studies**
YILMAZ M. T., crow w., ryu d.
American Geophysical Union Fall Meeting 2014, 15 - 19 December 2014
- LI. **Diagnosing Neglected Soil Moisture Source Sink Processes via a Thermal Infrared based Two Source Energy Balance Model**
Hain C., Crow W., Anderson M., YILMAZ M. T.
American Geophysical Union Fall Meeting 2014, 15 - 19 December 2014
- LII. **Türkiye deki Toprak Neminin NOAA Hidrolojik Yeryüzü Modeli İle İncelenmesi**
bulut b., YILMAZ M. T., SÖNMEZ İ., ŞORMAN A. Ü.
Second International Drought and Desertification Symposium, Konya, 16-18 September 2014, 16 - 18 September 2014
- LIII. **Towards continuous remote estimates of flooded area in the Sudd Wetland**
Wilusz D. C., Zaitchik B., Anderson M. C., Hain C. R., YILMAZ M. T.
2014 UCOWR / NIWR/ CUAHSI ANNUAL CONFERENCE, 18 - 20 June 2014
- LIV. **Gravity Recovery and Climate Experiment**
YILMAZ M. T.
National Hydrology Committee Steering Group Meeting and Workshop, 10 - 11 February 2014
- LV. **Data fusion techniques for mapping daily water use and vegetation stress at field scales**
Anderson M. C., Cammalleri C., Gao F., Wang P., Hain C., YILMAZ M. T., Kustas W.
94th American Meteorological Society Annual Meeting, 2 - 06 February 2014
- LVI. **Satellite based water balance of the Nile River basin a multisensor approach**
Zaitchik B. F., Anderson M. C., Ozdogan M., YILMAZ M. T.
American Geophysical Union Fall Meeting 2013, 9 - 13 December 2013
- LVII. **Evaluation Of Assumptions In Soil Moisture Triple Collocation Studies**
YILMAZ M. T., Crow W.
American Geophysical Union Fall Meeting 2013, 9 - 13 December 2013
- LVIII. **Application of the Auto Tuned Land Assimilation System ATLAS to ASCAT and SMOS soil moisture retrieval products**
crow w., YILMAZ M. T.
IGARSS 2013, 21 - 26 July 2013
- LIX. **Modellenen ve istasyonlarda ölçülen toprak neminin karşılaştırılması**
YILMAZ M. T., ŞORMAN A. Ü., SÖNMEZ İ.
III. TÜRKİYE İKLİM DEĞİŞİKLİĞİ KONGRESİ, TİKDEK (III. Climate Change in Turkey Meeting) 3 - 5 Haziran 2013, İstanbul, Turkey, 3 - 05 June 2013
- LX. **The Optimality of Potential Rescaling Approaches in Land Data Assimilation**
YILMAZ M. T., Crow W.
93rd American Meteorological Society Annual Meeting, 6 - 09 January 2013
- LXI. **Monitoring evapotranspiration and water resources with thermal infrared geostationary sensors An intercomparison with model based ET predictions and tower observations**
Hain C., Anderson M., Zhan X., YILMAZ M. T.
93rd American Meteorological Society Annual Meeting, 6 - 09 January 2013
- LXII. **Reducing Water Imbalance in Land Data Assimilation Ensemble Filtering without Perturbed**

Observations

DelSole T. M., YILMAZ M. T., Houser P. R.

American Geophysical Union Fall Meeting 2012, 3 - 07 December 2012

LXIII. Treatment of systematic errors in land data assimilation systems

Crow W., YILMAZ M. T.

American Geophysical Union Fall Meeting 2012, 3 - 07 December 2012

LXIV. Comparison of Prognostic and Diagnostic Approaches to Modeling Evapotranspiration in the Nile River Basin

YILMAZ M. T., Anderson M. C., Zaitchik B. F., Crow W., Hain C., Ozdogan M., Chun J. A.

American Geophysical Union Fall Meeting 2012, 3 - 07 December 2012

LXV. ALEXI evapotranspiration estimate analysis over the Nile Basin

Anderson M., Kustas W., YILMAZ M. T., Hain C., Zhan X.

African Climate Conference Workshop, Earth and Planetary Sciences Department, Johns Hopkins University, Baltimore, 15 November 2012

LXVI. 0 10 degree soil moisture retrievals from passive microwave observations

Parinussa R., Richard de J., YILMAZ M. T., Anderson M., Hain C.

EGU General Assembly 2012, 22 - 27 April 2012

LXVII. An Objective Methodology For Merging Satellite And Model Based Soil Moisture Products

YILMAZ M. T., Crow W., Anderson M., Hain C.

23th Annual Beltsville Area USDA BARC Poster-Day, 19 April 2012

LXVIII. An Objective Methodology to Merge Satellite and Model Based Soil Moisture Products

YILMAZ M. T., Crow W., Anderson M. C., Hain C.

92nd American Meteorological Society Annual Meeting, 22 - 26 January 2012

LXIX. An Objective Methodology to Optimally Merge Satellite and Model Based Soil Moisture Products for Obtaining a New Drought Product

YILMAZ M. T., Crow W., Anderson M. C., Hain C.

American Geophysical Union Fall Meeting 2011, 5 - 09 December 2011

LXX. Remotely Sensed Terrestrial Water Balance of the Nile Basin

Smith T., Zaitchik B., Anderson M., YILMAZ M. T., Alo C., Rodell M.

American Geophysical Union Fall Meeting 2011, 5 - 09 December 2011

LXXI. Towards an Integrated Soil Moisture Drought Monitor for East Africa

Anderson W. B., Hain C., Zaitchik B. F., Anderson M. C., Aga Alo C., YILMAZ M. T.

American Geophysical Union Fall Meeting 2011, 5 - 09 December 2011

LXXII. ALEXI evapotranspiration estimate analysis over the Nile basin

YILMAZ M. T., Anderson M.

Managing Water under Climate Change in the Blue Nile Headwaters Workshop, 7 - 10 July 2011

LXXIII. ALEXI analysis of water consumption in the Nile Basin

Anderson M., YILMAZ M. T.

Meeting of Managing Water under Climate Change in Blue Nile Headwaters, 7 - 10 July 2011

LXXIV. Introducing Water Budget Constraint To Improve Land Data Assimilation Performance

YILMAZ M. T., DelSole T., Houser P.

JCSDA 9th Workshop on Satellite Data Assimilation, 24 - 25 May 2011

LXXV. Using USDA ALEXI Evapotranspiration Product to Obtain Skillful Water Budget Estimations Over Nile River Basin

YILMAZ M. T., Crow W., Anderson M.

22nd Annual Beltsville Area USDA BARC Poster-Day, 17 April 2011

LXXVI. Comparison of vegetation water content estimates from WindSat and MODIS

Hunt Jr. E. R., Li L., Yilmaz M. T., Jackson T. J.

2010 30th IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2010, Honolulu, HI, United States Of America, 25 - 30 July 2010, pp.3879-3881

LXXVII. A framework for fuzzy video content extraction, storage and retrieval

- Koyuncu M., YILMAZ M. T., Yildirim Y., YAZICI A.
2010 6th IEEE World Congress on Computational Intelligence, WCCI 2010, Barcelona, Spain, 18 - 23 July 2010
- LXXXVIII. **Square Root Filters in Land Data Assimilation Studies**
YILMAZ M. T., Houser P., DelSole T.
Remote Sensing and Hydrology Symposium, 27 - 30 September 2010
- LXXXIX. **Predictability of Seasonal Precipitation Using Joint Probabilities**
YILMAZ M. T., DelSole T.
90th American Meteorological Society Annual Meeting, 17 - 21 January 2010
- LXXX. **Precipitation uncertainty How well do we know this critical hydrological variable**
Houser P., Feng X., Shrestha R., YILMAZ M. T.
EGU General Assembly 2009, 19 - 24 April 2009
- LXXXI. **Land surface modeling using optimally merged Precipitation data from multiple sources**
YILMAZ M. T., Shrestha R., Houser P. R., Anantharaj V.
American Geophysical Union Fall Meeting 2008, 15 - 19 December 2008
- LXXXII. **Remote sensing of canopy water content during SMEX'04 and SMEX'05 using shortwave-infrared reflectances**
Hunt Jr. E. R., Yilmaz M. T., Jackson T. J.
2008 IEEE International Geoscience and Remote Sensing Symposium - Proceedings, Boston, MA, United States Of America, 6 - 11 July 2008, vol.2
- LXXXIII. **Remote sensing of leaf equivalent water thickness and vegetation water content using shortwave infrared reflectances**
Hunt E., YILMAZ M. T., Jackson T.
ASPRS 2008 Annual Conference, 28 April - 02 May 2008
- LXXXIV. **Effect of land cover classification map resolution in land surface modeling studies**
YILMAZ M. T., Houser P., Shrestha R.
American Geophysical Union Fall Meeting 2007, 10 - 14 December 2007
- LXXXV. **Remote sensing of vegetation water content using shortwave infrared reflectances**
Hunt Jr. E. R., Yilmaz M. T.
Remote Sensing and Modeling of Ecosystems for Sustainability IV, San Diego, CA, United States Of America, 28 - 29 August 2007, vol.6679
- LXXXVI. **Scaling vegetation water content from thematic mapper to MODIS during SMEX04**
Hunt Jr. E. R., Yilmaz M. T., Jackson T. J.
2006 IEEE International Geoscience and Remote Sensing Symposium, IGARSS, Denver, CO, United States Of America, 31 July - 04 August 2006, pp.1945-1948
- LXXXVII. **Vegetation water content from Landsat 5 thematic mapper during the Soil Moisture Experiment 2004 in Arizona and Sonora**
Hunt E., YILMAZ M. T., Jackson T.
ASPRS 2006 Annual Conference, 1 - 05 May 2006
- LXXXVIII. **Vegetation water content data product validation using SMEX04 and SMEX05 data**
Hunt E., YILMAZ M. T., Ustin S., Vanderbilt V.
MODIS Science Team Meeting, 4 - 06 January 2006

Supported Projects

Yılmaz M. T., Darama Y., Yücel İ., Kentel Erdoğan E., Yılmaz M., TUBITAK Project, İklim Değişikliğinin Çoruh Havzasındaki Yüzeysel Su Potansiyeline Ve Ardisik Barajlardaki Enerji Üretimine Etkilerinin İncelenmesi, 2022 - 2025

Yılmaz M. T., Yağcı A. L., Kıvrak C., Bakanoğulları F., TUBITAK Project, Estimation of Medium and High Resolution Evapotranspiration Using Remote Sensing Observations, 2020 - 2023

YÜCEL İ., YILMAZ M. T., TUBITAK Project, Bütünleştirilmiş Atmosferik-Hidrolojik Model Sisteminin Taşkın Olayları İçin İki Farklı Havzada Değerlendirilmesi, 2018 - 2021

Yılmaz M. T., Yılmaz K. K., Yücel I., TUBITAK Project, Türkiye Üzerinde Yer Gözlem Verileriyle İyileştirilmiş Yüksek Çözünürlüklü Homojen Radar Yağış Haritası Elde Edilmesi, 2018 - 2021

Yılmaz M. T., FP7 Project, Improving Predictions of Vegetation Condition by Optimally Merging Satellite Remote Sensing based Soil Moisture Products, 2014 - 2019

Yücel İ., Yılmaz M. T., Yılmaz K. K., Alp E., Technopark, Havza Su Projesi, 2017 - 2018

YILMAZ M. T., TUBITAK Project, İstasyonlarda Ölçülen Toprak Nemi Değerlerinin Hidrolojik Model ve Uydu Verileri Yardımıyla Değerlendirilmesi, 2015 - 2018

YILMAZ M. T., H2020 Project, Improving Predictions of Vegetation Condition by Optimally Merging Satellite Remote Sensing-based Soil Moisture Products, 2014 - 2018

YILMAZ M. T., Project Supported by Higher Education Institutions, İSTASYONLARDAN ELDE EDİLEN TOPRAK NEMİ DEĞERLERİNİN KALİBRASYONU, 2015 - 2016

Scientific Refereeing

Hydrology And Earth System Sciences, SCI Journal, December 2019

IEEE Transactions On Geoscience And Remote Sensing, SCI Journal, December 2019

Journal Of Hydrometeorology, SCI Journal, October 2019

INTERNATIONAL JOURNAL OF CLIMATOLOGY, SCI Journal, September 2019

Journal Of Hydrometeorology, SCI Journal, May 2019

JOURNAL OF HYDROMETEOROLOGY, SCI Journal, May 2019

Project Supported by Other Official Institutions, Middle East Technical University, Turkey, April 2019

JOURNAL OF HYDROMETEOROLOGY, SCI Journal, March 2019

Remote Sensing Of Environment, SCI Journal, February 2019

Meteorological Applications, SCI Journal, November 2018

Journal Of Hydrometeorology, SCI Journal, October 2018

Journal Of Hydrometeorology, SCI Journal, July 2018

TEKNİK DERGI, SCI Journal, January 2018

JOURNAL OF HYDROMETEOROLOGY, SCI Journal, January 2018

Metrics

Publication: 140

Citation (WoS): 1686

Citation (Scopus): 1857

H-Index (WoS): 20

H-Index (Scopus): 21

Scholarships

Marie Curie FP7 Career Integration Grant, European Commission, 2014 - 2018

NASA Earth and Space Science Fellowship (NESSF) , Other International Organizations, 2009 - 2012

Awards

Yılmaz M. T., Mustafa Parlar Vakfı Araştırma Teşvik Ödülü, Mustafa Parlar Vakfı, June 2022

Yılmaz M. T., Üstün Başarılı Genç Bilim İnsanı , Türkiye Bilimler Akademisi, December 2018

Yılmaz M. T., Genç Araştırmacı Başarı Ödülü, Odtü Geliştirme Vakfı, December 2017

Yılmaz M. T., Genç Araştırmacı Başarı Ödülü, Odtü Geliştirme Vakfı, December 2016

Yılmaz M. T., Genç Araştırmacı Başarı Ödülü, Odtü Geliştirme Vakfı, December 2015

Yılmaz M. T., NASA Earth and Space Science Fellowship/10, The National Aeronautics And Space Administration Of The U.S., July 2010

Yılmaz M. T., NASA Earth and Space Science Fellowship/09, The National Aeronautics And Space Administration Of The U.S., July 2009

Yılmaz M. T., NASA Earth and Space Science Fellowship/08, The National Aeronautics And Space Administration Of The U.S., July 2008

Non Academic Experience

United States Department of Agriculture, Hydrology and Remote Sensing Lab

United States Department of Agriculture, Hydrology and Remote Sensing Lab

United States Department of Agriculture, Hydrology and Remote Sensing Lab