

## **Assoc. Prof. KORAY KAMİL YILMAZ**

### **Personal Information**

**Email:** yilmazk@metu.edu.tr

**Web:** <https://avesis.metu.edu.tr/yilmazk>

### **Education Information**

Doctorate, University Of Arizona, Department Of Hydrology And Water Resources, United States Of America 2001 - 2007

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Jeoloji Mühendisliği (YI) (Tezli), Turkey 1996 - 1999

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Geological Engineering, Turkey 1992 - 1996

### **Dissertations**

Doctorate, Towards improved modeling for hydrologic predictions in poorly gauged basins, University Of Arizona, Department Of Hydrology And Water Resources, 2007

Postgraduate, Characterization of the Küçük Menderes River basin aquifer system, Middle East Technical University, Graduate School of Natural and Applied Sciences, Jeoloji Mühendisliği (YI) (Tezli), 1999

### **Research Areas**

Geological Engineering, Applied Geology, Hydrogeology and Hidrology, Engineering and Technology

### **Academic Titles / Tasks**

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Geological Engineering, 2016 - Continues

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Geological Engineering, 2011 - 2016

Lecturer PhD, Middle East Technical University, Faculty of Engineering, Department of Geological Engineering, 2010 - 2011

### **Academic and Administrative Experience**

Deputy Head of Department, Middle East Technical University, Faculty of Engineering, Department of Geological Engineering, 2014 - 2019

Erasmus Coordinator, Middle East Technical University, Faculty of Engineering, Department of Geological Engineering, 2012 - 2017

### **Advising Theses**

Süzen M. L. , Yilmaz K. K. , Spatio-temporal changes of lake water extents in Lakes region (Turkey) using remote sensing, Postgraduate, E.ATABEY(Student), 2019

Süzen M. L. , Yilmaz K. K. , Plastic object detection with an infrared hyperspectral image, Postgraduate, M.FATİH(Student), 2019

YILMAZ K. K. , KURT Z., Modeling the effects of irrigation by contaminated groundwater, Postgraduate, Y.GÜRAY(Student), 2018

YILMAZ K. K. , SÜZEN M. L. , Analysis of spatio-temporal changes of precipitation to estimate R factor in rusle at Kartalkaya Dam, Postgraduate, G.TAŞKESEN(Student), 2018

YILMAZ K. K. , SÜZEN M. L. , Multi-temporal water extent analysis of a hypersaline playa lake using landsat imagery, Postgraduate, E.CEYHAN(Student), 2016

YILMAZ K. K. , Characterization of groundwater and surface water interaction in kirmir stream using thermal remote sensing and in-stream measurements, Postgraduate, D.VARLI(Student), 2016

YILMAZ K. K. , Advancement of satellite-based rainfall applications for basin-scale hydrologic modeling / , Postgraduate, Y.DERİN(Student), 2014

### Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **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 (Journal Indexed in SCI)
- II. **A multi-technique approach to determine temporal and spatial variability of groundwater-stream water exchange**  
Koruk K., YILMAZ K. K. , Akyurek Z., Binley A.  
HYDROLOGICAL PROCESSES, vol.34, no.11, pp.2612-2627, 2020 (Journal Indexed in SCI)
- III. **Evaluation of GPM-era Global Satellite Precipitation Products over Multiple Complex Terrain Regions**  
Derin Y., Anagnostou E., Berne A., Borga M., Boudevillain B., Buytaert W., Chang C., Chen H., Delrieu G., Hsu Y. C. , et al.  
REMOTE SENSING, vol.11, no.24, 2019 (Journal Indexed in SCI)
- IV. **Twenty-three unsolved problems in hydrology (UPH) - a community perspective**  
Bloesch G., Bierkens M. F. P. , Chambel A., Cudennec C., Destouni G., Fiori A., Kirchner J. W. , McDonnell J. J. , Savenije H. H. G. , Sivapalan M., et al.  
HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES, vol.64, no.10, pp.1141-1158, 2019 (Journal Indexed in SCI)
- V. **A Multi-Scale Approach for Improved Characterization of Surface Water-Groundwater Interactions: Integrating Thermal Remote Sensing and in-Stream Measurements**  
VARLI D., Yilmaz K. K.  
WATER, vol.10, no.7, 2018 (Journal Indexed in SCI)
- VI. **Evaluation and Bias Correction of Satellite-Based Rainfall Estimates for Modelling Flash Floods over the Mediterranean region: Application to Karpuz River Basin, Turkey**  
Saber M., YILMAZ K. K.  
WATER, vol.10, no.5, 2018 (Journal Indexed in SCI)
- VII. **Multiregional Satellite Precipitation Products Evaluation over Complex Terrain**  
Derin Y., Anagnostou E., Berne A., BORGA M., BOUDEVILLAIN B., BUYTAERT W., CHANG C., DELRIEU G., HONG Y., HSU Y. C. , et al.  
JOURNAL OF HYDROMETEOROLOGY, vol.17, no.6, pp.1817-1836, 2016 (Journal Indexed in SCI)
- VIII. **A multi-criteria penalty function approach for evaluating a priori model parameter estimates**  
Yilmaz K. K. , Gupta H. V. , Wagener T.  
JOURNAL OF HYDROLOGY, vol.525, pp.165-177, 2015 (Journal Indexed in SCI)
- IX. **Calibration and evaluation of a flood forecasting system: Utility of numerical weather prediction**

**model, data assimilation and satellite-based rainfall**

Yücel İ., Onen A., Yilmaz K. K. , Gochis D. J.

JOURNAL OF HYDROLOGY, vol.523, pp.49-66, 2015 (Journal Indexed in SCI)

- X. **Evaluation of Multiple Satellite-Based Precipitation Products over Complex Topography**  
DERIN Y., Yilmaz K. K.  
JOURNAL OF HYDROMETEOROLOGY, vol.15, no.4, pp.1498-1516, 2014 (Journal Indexed in SCI)
- XI. **Multiple-criteria calibration of a distributed watershed model using spatial regularization and response signatures**  
Pokhrel P., Yilmaz K. K. , Gupta H. V.  
JOURNAL OF HYDROLOGY, vol.418, pp.49-60, 2012 (Journal Indexed in SCI)
- XII. **Validation of a TRMM-based global Flood Detection System in Bangladesh**  
Moffitt C. B. , Hossain F., Adler R. F. , Yilmaz K. K. , Pierce H. F.  
INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION, vol.13, no.2, pp.165-177, 2011 (Journal Indexed in SCI)
- XIII. **Satellite Remote Sensing and Hydrologic Modeling for Flood Inundation Mapping in Lake Victoria Basin: Implications for Hydrologic Prediction in Ungauged Basins**  
Khan S. I. , Hong Y., Wang J., Yilmaz K. K. , Gourley J. J. , Adler R. F. , Brakenridge G. R. , Policelli F., Habib S., Irwin D.  
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.49, no.1, pp.85-95, 2011 (Journal Indexed in SCI)
- XIV. **The coupled routing and excess storage (CREST) distributed hydrological model**  
Wang J., Yang H., Li L., Gourley J. J. , Sadiq K. I. , Yilmaz K. K. , Adler R. F. , Policelli F. S. , Habib S., Irwin D., et al.  
HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES, vol.56, no.1, pp.84-98, 2011 (Journal Indexed in SCI)
- XV. **Evaluation of a satellite-based global flood monitoring system**  
Yilmaz K. K. , Adler R. F. , Tian Y., Hong Y., Pierce H. F.  
INTERNATIONAL JOURNAL OF REMOTE SENSING, vol.31, no.14, pp.3763-3782, 2010 (Journal Indexed in SCI)
- XVI. **Decomposition of the mean squared error and NSE performance criteria: Implications for improving hydrological modelling**  
Gupta H. V. , Kling H., Yilmaz K. K. , Martinez G. F.  
JOURNAL OF HYDROLOGY, vol.377, pp.80-91, 2009 (Journal Indexed in SCI)
- XVII. **A process-based diagnostic approach to model evaluation: Application to the NWS distributed hydrologic model**  
Yilmaz K. K. , Gupta H. V. , Wagener T.  
WATER RESOURCES RESEARCH, vol.44, no.9, 2008 (Journal Indexed in SCI)
- XVIII. **Intercomparison of rain gauge, radar, and satellite-based precipitation estimates with emphasis on hydrologic forecasting**  
Yilmaz K. K. , Hogue T., Hsu K., Sorooshian S., Gupta H., Wagener T.  
JOURNAL OF HYDROMETEOROLOGY, vol.6, no.4, pp.497-517, 2005 (Journal Indexed in SCI)
- XIX. **Electrical and photoconductive properties of Ga<sub>0.75</sub>Se<sub>0.25</sub> mixed crystals**  
KARABULUT O., Parlak M., YILMAZ K., Gasanly N.  
CRYSTAL RESEARCH AND TECHNOLOGY, vol.40, no.3, pp.253-258, 2005 (Journal Indexed in SCI)
- XX. **Space-charge-limited current analysis in amorphous InSe thin films**  
YILMAZ K., Parlak M., Ercelebi C.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.15, no.4, pp.225-229, 2004 (Journal Indexed in SCI)
- XXI. **Annealing effect on electrical and photoconductive properties of Si implanted GaSe single crystal**  
KARABULUT O., Parlak M., YILMAZ K., Turan R., Akinoglu B. G.  
CRYSTAL RESEARCH AND TECHNOLOGY, vol.38, no.12, pp.1071-1076, 2003 (Journal Indexed in SCI)
- XXII. **Optimal aquifer dewatering schemes for excavation of collector line**  
TOKGOZ M., Yilmaz K. K. , YAZICIGIL H.  
JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT-ASCE, vol.128, no.4, pp.248-261, 2002 (Journal

## Articles Published in Other Journals

- I. **Bir taşkın tahmin sisteminin değerlendirilmesi Nümerik hava tahmin modeli veri asimilasyonu ve uydu yağışlarının kullanımı**  
YÜCEL İ., YILMAZ K. K., önen a.  
Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, 2016 (Other Refereed National Journals)

## Books & Book Chapters

- I. **Model Calibration in Watershed Hydrology**  
YILMAZ K. K., Vrugt J. A., Gupta H. V., Sorooshian S.  
in: Advances in Data Based Approaches for Hydrologic Modeling and Forecasting, B. Sivakumar and R. Berndtsson, Editor, World Scientific, Toh Tuck Link, pp.53-105, 2010

## Refereed Congress / Symposium Publications in Proceedings

- I. **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
- II. **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
- III. **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
- IV. **Sectoral Drought Vulnerability and Drought Period Forecasts in Van Lake Basin, Turkey Until 2100**  
Fırat E., Yılmaz K. K., Aydın H.  
European Geosciences Union General Assembly, Vienna, Austria, 7 - 12 April 2019, vol.21, pp.1602
- V. **A multi-technique approach to determine temporal and spatial variability of groundwater-stream water exchange**  
Koruk K., Yılmaz K. K., Akyürek S. Z., Binley A.  
EGU, Vienna, Austria, 7 - 12 April 2019, vol.21, pp.1080
- VI. **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
- VII. **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
- VIII. **RUSLE METODU YAĞIŞ FAKTÖRÜNÜN KARTALKAYA BARAJ HAVZASINDA ARAŞTIRILMASI**  
taşkesen öztürk g., SÜZEN M. L., YILMAZ K. K.  
Türkiye Ulusal Jeodezi ve Jeofizik Birliği Bilimsel Kongresi, İzmir, Turkey, 30 May - 02 June 2018

- IX. **Application of Soil and water Assessment Tool (SWAT) Model to Estimate Water Budget in a Mine Area in Western Turkey**  
ARGUNHAN Ç., YAZICIGİL H., YILMAZ K. K.  
European Geosciences Union General Assembly (EGU), 9 - 13 April 2018
- X. **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
- XI. **THE ROLE OF DROUGHT AND STORMS IN HARMFUL ALGALBLOOM EVENTS IN TWO GEORGIA PIEDMONT RESERVOIRS**  
Knapp A. S. , Milewski A. M. , Rotz R. R. , YILMAZ K. K. , Fulton S., DeLange J., Webster C.  
Geological Society of America Annual Meeting, Seattle, United States Of America, 22 - 25 October 2017, vol.49, pp.372
- XII. **Analysis of flow signatures and catchment similarity indices for catchment classification in Yesilirmak Basin**  
Soyugür B., YILMAZ K. K.  
European Geosciences Union, Viyena, Austria, 23 - 28 April 2017, vol.19, pp.20179274
- XIII. **Multi-temporal water extent analysis of Lake Tuz using Landsat Imagery**  
KILIÇ E., YILMAZ K. K. , SÜZEN M. L.  
2nd IWA Regional Symposium on water, wastewater and environment, İzmir, Turkey, 22 - 24 March 2017, pp.28
- XIV. **UNDERSTANDING GROUNDWATER AND SURFACE WATEREXCHANGE PROCESSES ALONG A CONTROLLED STREAM USING THERMAL REMOTE SENSING AND IN SITU MEASUREMENTS**  
Varlı D., YILMAZ K. K.  
American Geophysical Union Fall Meeting 2016, San-Francisco, Costa Rica, 12 - 16 December 2016
- XV. **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
- XVI. **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
- XVII. **Flash Floods Simulation using a Physical Based Hydrological Model at Different Hydroclimatic Regions**  
Saber M., YILMAZ K. K.  
European Geosciences Union General Assembly 2016, Viyena, 17 - 22 April 2016, vol.18, pp.17044
- XVIII. **Multi temporal water extent analysis of a hypersaline playa lake using Landsat Imagery**  
Kılıç E., YILMAZ K. K. , SÜZEN M. L.  
EGU General Assembly 2016, 17 - 22 April 2016
- XIX. **Evaluating the one way coupling of WRF Hydro for flood forecasting**  
YÜCEL İ., onen a., YILMAZ K. K. , gochis d.  
EGU General Assembly 2016, 17 - 22 April 2016
- XX. **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
- XXI. **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
- XXII. **Determination of potential groundwater discharge zones into a Salt Lake using remote sensing techniques and in situ measurements**  
KILIÇ E., YILMAZ K. K. , SÜZEN M. L.  
EGU General Assembly 2015, Viyana, Austria, 12 - 17 April 2015, vol.17

- XXIII. **Characterization of Groundwater and Surface Water Interactions Along Kirmir Stream Using Field Measurements and Thermal Remote Sensing**  
VARLI D., YILMAZ K. K. , SÜZEN M. L.  
68th Geological Congress of Turkey, Turkey, 6 - 10 April 2015
- XXIV. **Yeraltı Suyu Ve Yüzey Suyu Etkileşiminin Termal Uzaktan Algılama ve Arazi Ölçümleri İle Belirlenmesi**  
Dilge V., YILMAZ K. K. , SÜZEN M. L.  
68. Jeoloji Kurultayı, Ankara, Turkey, 6 - 10 April 2015, vol.1, pp.199
- XXV. **Climate and Land Surface Changes in Hydrology Preface**  
Boegh E., Blyth E., Hannah D. M. , Hisdal H., Kunstmann H., Su B., Yilmaz K. K.  
International Association of Hydrological Sciences Symposium on Climate and Land Surface Changes in Hydrology / IAHS-IAPSO-IASPEI Joint Assembly, Gothenburg, Sweden, 22 - 26 July 2013, vol.359
- XXVI. **Impacts of Decreasing Recharge Rates on Sustainable Groundwater Management**  
YAZICIGİL H., YILMAZ K. K. , ERDEMLİ B. U. , Yagbasan O.  
NATO Advanced Research Workshop on Effect of Climate Change on Water Resources - Issues of National and Global Security, İzmir, Turkey, 1 - 04 September 2010, pp.43-44
- XXVII. **Potential Impacts of Climate Change on Turkish Water Resources: A Review**  
YILMAZ K. K. , YAZICIGİL H.  
NATO Advanced Research Workshop on Effect of Climate Change on Water Resources - Issues of National and Global Security, İzmir, Turkey, 1 - 04 September 2010, pp.105-114
- XXVIII. **Non-parametric radar detection in homogeneous and non-homogeneous environments**  
Yilmaz K., Uener K. M.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.29-30
- XXIX. **Evaluating the utility of satellite-based precipitation estimates for runoff prediction in ungauged basins**  
Yilmaz K. K. , Gupta H., Hogue T. S. , Hsu K., Wagener T., Sorooshian S.  
International Symposium on Regional Hydrological Impacts of Climatic Variability and Change, Foz do Iguaçu, Brazil, 3 - 09 April 2005, vol.295, pp.273-282

## Supported Projects

- YILMAZ K. K. , Project Supported by Other Private Institutions, Hydrogeological Investigation and Characterization of Esan Alpu Coal Field, 2014 - Continues
- Şahin E., Koku A. B. , Turgut A. E. , Saranlı U., Kalkan S., Keysan O., Cinbiş R. G. , Akbaş E., Ankaralı M. M. , Saranlı A., et al., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, ROBOTİK TEKNOLOJİLERİ ARAŞTIRMA, GELİŞTİRME ve EĞİTİM MERKEZİ (ROMER), 2019 - 2022
- Yücel İ., Yılmaz M. T. , Yılmaz K. K. , TUBITAK Project, Evaluation of coupled atmospheric and hydrologic modeling system for flood events at two different basins , 2018 - 2021
- Yücel İ., Yılmaz M. T. , Yılmaz K. K. , Alp E., Technopark, Havza Su Projesi, 2017 - 2018
- YAZICIGİL H., YILMAZ K. K. , Project Supported by Other Private Institutions, Çeltikçi Kömür Madeni ve Termik Santralı Su Temini Değerlendirme Projesi, 2014 - 2015
- YILMAZ K. K. , Project Supported by Higher Education Institutions, CHARACTERIZATION OF GROUNDWATER AND SURFACE WATER INTERACTIONS USING THERMAL REMOTE SENSING AND IN-STREAM MEASUREMENTS, 2013 - 2015
- YAZICIGİL H., SÜZEN M. L. , YILMAZ K. K. , Project Supported by Other Private Institutions, Hydrogeological Investigation and Characterization of Çeltikçi Coal Basin, 2011 - 2013
- YILMAZ K. K. , Project Supported by Higher Education Institutions, Uydulardan Elde Edilen Yağış Tahminlerinin Türkiye Üzerinde Bölgesel Olarak Değerlendirilmesi, 2010 - 2010

## **Contractual Researches**

YILMAZ K. K. , Ankara Nallıhan Davutođlan Yaban Hayatı Geliřtirme Sahası (YHGS) Yönetim ve Geliřme Planı hazırlanması, 2017 - 2017

## **Citations**

Total Citations (WOS):2941

h-index (WOS):16