

## Prof. Hakan TONGAL

### Personal Information

Office Phone: [+90 246 211 1211](tel:+902462111211)

Email: [hakantongal@sdu.edu.tr](mailto:hakantongal@sdu.edu.tr)

Web: <https://avesis.sdu.edu.tr/hakantongal>

### Dissertations

Doctorate, Akarsu akımlarının nonlineerlik, stokastiklik ve belirsizlik özelliklerinin matematiksel tabanlı metotlarla incelenmesi, Suleyman Demirel University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2012

Post Graduate, Akarsu akımlarının lineer ve non-lineer parametrik zaman serileriyle modellenmesi, Suleyman Demirel University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2008

### Research Areas

Atmospheric Sciences and Meteorological Engineering, Hydrology-Hydrometeorology, Climate, Climate Change and Climate Modeling, Meteorological Disasters, Flood-Storm-Avalanche-Drought Analysis, Civil Engineering, Hydraulic, Surface Water Engineering, Hydrology, Engineering and Technology

### Academic Titles / Tasks

Professor, Suleyman Demirel University, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, 2021 - Continues

Associate Professor, Suleyman Demirel University, Mühendislik Fakültesi, İnşaat Mühendisliği, 2015 - 2021

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

- I. **Comparison of local and global approximators in multivariate chaotic forecasting of daily streamflow**  
TONGAL H.  
HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES, 2020 (Journal Indexed in SCI)
- II. **Spatiotemporal analysis of precipitation and extreme indices in the Antalya Basin, Turkey**  
TONGAL H.  
THEORETICAL AND APPLIED CLIMATOLOGY, vol.138, pp.1735-1754, 2019 (Journal Indexed in SCI)
- III. **Entropy analysis for spatiotemporal variability of seasonal, low, and high streamflows**  
TONGAL H., SIVAKUMAR B.  
STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT, vol.33, no.1, pp.303-320, 2019 (Journal Indexed in SCI)
- IV. **Simulation and forecasting of streamflows using machine learning models coupled with base flow separation**  
TONGAL H., BOOIJ M. J.  
JOURNAL OF HYDROLOGY, vol.564, pp.266-282, 2018 (Journal Indexed in SCI)
- V. **Cross-entropy clustering framework for catchment classification**  
TONGAL H., SIVAKUMAR B.  
JOURNAL OF HYDROLOGY, vol.552, pp.433-446, 2017 (Journal Indexed in SCI)

- VI. **Quantification of parametric uncertainty of ANN models with GLUE method for different streamflow dynamics**  
TONGAL H., Booij M. J.  
Stochastic Environmental Research and Risk Assessment, vol.31, no.4, pp.993-1010, 2017 (Journal Indexed in SCI)
- VII. **Analysis of dam-induced cyclic patterns on river flow dynamics**  
TONGAL H., DEMIREL M. C. , MORADKHANI H.  
Hydrological Sciences Journal, vol.62, no.4, pp.626-641, 2017 (Journal Indexed in SCI)
- VIII. **Impact of complexity on daily and multi-step forecasting of streamflow with chaotic, stochastic, and black-box models**  
TONGAL H., BERNDTSSON R.  
Stochastic Environmental Research and Risk Assessment, vol.31, no.3, pp.661-682, 2017 (Journal Indexed in SCI)
- IX. **A Comparison of Nonlinear Stochastic Self-Exciting Threshold Autoregressive and Chaotic k-Nearest Neighbour Models in Daily Streamflow Forecasting**  
TONGAL H., Booij M. J.  
Water Resources Management, vol.30, no.4, pp.1515-1531, 2016 (Journal Indexed in SCI)
- X. **Phase-space reconstruction and self-exciting threshold modeling approach to forecast lake water levels**  
TONGAL H., Berndtsson R.  
STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT, vol.28, no.4, pp.955-971, 2014 (Journal Indexed in SCI)
- XI. **Nonlinear forecasting of stream flows using a chaotic approach and artificial neural networks**  
Tongal H.  
EARTH SCIENCES RESEARCH JOURNAL, vol.17, no.2, pp.119-126, 2013 (Journal Indexed in SCI)
- XII. **Seasonality of low flows and dominant processes in the Rhine River**  
TONGAL H., DEMIREL M. C. , Booij M. J.  
STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT, vol.27, no.2, pp.489-503, 2013 (Journal Indexed in SCI)
- XIII. **NONLINEAR DYNAMICAL APPROACH AND SELF-EXCITING THRESHOLD MODEL IN FORECASTING DAILY STREAM-FLOW**  
Tongal H.  
FRESENIUS ENVIRONMENTAL BULLETIN, vol.22, no.10, pp.2836-2847, 2013 (Journal Indexed in SCI)
- XIV. **Investigation of the Volatility in Stream Flow Time Series with Nonlinear Variance Models: Case Study of Koprucay River**  
GÜLDAL V., TONGAL H.  
TEKNIK DERGI, vol.22, no.3, pp.5471-5485, 2011 (Journal Indexed in SCI)
- XV. **Comparison of Recurrent Neural Network, Adaptive Neuro-Fuzzy Inference System and Stochastic Models in Egirdir Lake Level Forecasting**  
Gueldal V., TONGAL H.  
WATER RESOURCES MANAGEMENT, vol.24, no.1, pp.105-128, 2010 (Journal Indexed in SCI)
- XVI. **CLUSTER ANALYSIS IN SEARCH OF WIND IMPACTS ON EVAPORATION**  
güldal V., TONGAL H.  
APPLIED ECOLOGY AND ENVIRONMENTAL RESEARCH, vol.6, no.4, pp.69-76, 2008 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **A hierarchical cluster-based fuzzy rainfall-runoff model**  
GÜLDAL V., TONGAL H.  
Beykent Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.3, no.2, pp.253-266, 2009 (National Refreed University Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Havzalar arası su transferinin Beyşehir Gölü örneğinde incelenmesi**  
Doğan A., TONGAL H.  
İnşaat Mühendisliği'nde 100.Yıl "Teknik Kongresi", İstanbul, Turkey, 22 - 24 November 2012, pp.80-81
- II. **Akarsu akım tahmininde ileri beslemeli yapay sinir ağları ile elman sinir ağlarının karşılaştırılması**  
TONGAL H., GÜLDAL V.  
Uluslararası Katılımlı III.Ulusal Baraj Güvenliği Sempozyumu, Eskişehir, Turkey, 10 - 12 October 2012, pp.307-320
- III. **Investigation of the volatility in stream flow time series with nonlinear variance models: case study of Köprüçay River**  
TONGAL H., GÜLDAL V.  
4th International Conference on Estuaries and Coasts, Hanoi, Vietnam, 8 - 11 October 2012, pp.1-8
- IV. **Long-term lake water level prediction using fuzzy modelling approach with probabilistic transition matrix**  
GÜLDAL V., TONGAL H.  
International Symposium on Engineering and Architectural Sciences of Balkan, Caucasus and Turkic Republics, Isparta, Turkey, 22 - 24 October 2009, pp.68-73
- V. **Aylık ortalama göl su seviyesinin bulanık-olasılık yaklaşımı ile gözlenmiş zaman serisinden tahmini.**  
GÜLDAL V., TONGAL H.  
Süleyman Demirel Üniversitesi 15.Yıl Mühendislik-Mimarlık Sempozyumu, Isparta, Turkey, 14 - 16 November 2007, pp.112-118
- VI. **Nehir akışlarının tahmininde yağış-akış ilişkisine dayalı bulanık mantık yaklaşımı.**  
GÜLDAL V., DEMİRPENÇE H., TONGAL H.  
Uluslararası Katılımlı I.Ulusal Baraj Güvenliği Sempozyumu, Ankara, Turkey, 28 - 30 May 2007, pp.535-546

## Supported Projects

TUBITAK Project, "Göl-Yeraltısuyu-İklim ilişkisinin Yeraltısuyu Akım Modeli ve Coğrafi Bilgi Sistemleri (CBS) Yardımıyla Belirlenerek Gölün Optimum Dinamik İşletme Modelinin Oluşturulması: Beyşehir Gölü Modeli, 2010 - 2013

## Scientific Refereeing

Journal of Hydrologic Engineering, SCI Journal, November 2017

Journal of Hydrology, SCI Journal, November 2017

Geoscience Letters, SCI Journal, October 2017

Water Resources Management, SCI Journal, October 2017

Water Resources Management, SCI Journal, September 2017

Uludağ University Journal of the Faculty of Engineering, National Scientific Refereed Journal, July 2017

Journal of Hydrologic Engineering, SCI Journal, June 2017

Water Resources Management, SCI Journal, April 2017

## Citations

Total Citations (WOS):147

h-index (WOS):8