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Special Issue Water

Groundwater Vulnerability, Risk and Hazard: State of the Art Statistical and Machine Learning Techniques, edited by Rahim Barzegar andAta Allah Nadiri

submission deadline 20 Oct 2022 | 3 articles | Viewed by 2312

Keywords: groundwater quality; groundwater vulnerability; anthropogenic/geogenic contamination; land subsidence; risk analysis and assessment; machine learning; deep learning; statistical method; climate change; land use

(This special issue belongs to the Section New Sensors, New Technologies and Machine Learning in Water Sciences)

https://www.mdpi.com/journal/water/special_issues

New Literature

From **Devin Galloway** I received following:

Flocks, J., McGraw, E., Barras, J., Bernier, J., Bradley, M., Galloway, D., Landmeyer, J., McBride, W.S., Smith, C., Smith, K., Swarzenski, C., and Toth, L., 2022, Documenting the multiple facets of a subsiding landscape from coastal cities and wetlands to the continental shelf: U.S. Geological Survey Open-File Report 2022–1064, 22 p., https://doi.org/10.3133/ofr20221064.

And from **Pietro Teatini**:

R. Xotta, C. Zoccarato, P. S. J. Minderhoud, P. Teatini

Modelling the role of compaction in the three-dimensional evolution of depositional environments

http://www.dmsa.unipd.it/~teatini/Publications/Int_journals/Xot_etal22.html

Y. Li, P. Teatini, C. Zoccarato

Sensitivity analysis of factors controlling earth fissures due to excessive groundwater pumping

http://www.dmsa.unipd.it/~teatini/Publications/Int_journals/Li_etal22b.html

Asia

Chen, Guangquan & Xu, Bochao & Bidorn, Butsawan & Burnett, William. (2022). Effects of Groundwater Extraction and River Regulation on Coastal Freshwater Resources. 10.1007/978-981-19-5065-0_5.

https://www.researchgate.net/publication/364418366_Effects_of_Groundwater_Extraction_and_River_Regulation_on_Coastal_Freshwater_Resources

Egypt

Abudeif, A.M. et al.,; Detection of Groundwater Pathways to Monitor Their Level Rise

in Osirion at Abydos Archaeological Site for Reducing Deterioration Hazards, Sohag, Egypt Using

Electrical Resistivity Tomography Technique. Appl. Sci. 2022, 12, 10417.

https://doi.org/10.3390/app122010417

https://www.mdpi.com/2076-3417/12/20/10417/pdf?version=1665840530

Indonesia,

Lars Hein et al.,

Effects of soil subsidence on plantation agriculture in Indonesian peatlands. Regional Environmental Change. 22. 10.1007/s10113-022-01979-z.

https://www.researchgate.net/publication/364162051_Effects_of_soil_subsidence_on_plantation_agriculture_in_Indonesian_peatlands

Indonesia, Sidoarjo

Noorlaila Hayati Isya et al.,

Small baselines techniques of time series InSAR to monitor and predict land subsidence causing flood vulnerability in Sidoarjo, Indonesia

Geomatics, Natural Hazards and Risk 13(1):2124-2150

DOI: 10.1080/19475705.2022.2109518

https://www.researchgate.net/publication/362595434_Small_baselines_techniques_of_time_series_InSAR_to_monitor_and_predict_land_subsidence_causing_flood_vulnerability_in_Sidoarjo_Indonesia

Iran

Yousefi, R., Talebbeydokhti, N., Afzali, S.H. et al. Understanding the effects of subsidence on unconfined aquifer parameters by integration of Lattice Boltzmann Method (LBM) and Genetic Algorithm (GA). Nat Hazards (2022). https://doi.org/10.1007/s11069-022-05607-1

Iran, Ghaemshahr plain

Homayoun Moghimi et al.,

Assessing the effects of surface water on artificial recharge of coastal aquifers by GIS zoning maps (Case study: Ghaemshahr plain, northeastern Iran)

https://www.researchgate.net/publication/363782733_Assessing_the_effects_of_surface_water_on_artificial_recharge_of_coastal_aquifers_by_GIS_zoning_maps_A_case_study_in_Ghaemshahr_Iran

Iran, Hashtgerd Plain

Mehrnoor, S., Robati, M., Kheirkhah Zarkesh, M.M. et al. Land subsidence hazard assessment based on novel hybrid approach: BWM, weighted overlay index (WOI), and support vector machine (SVM). Nat Hazards (2022). https://doi.org/10.1007/s11069-022-05624-0

Kenya, Nairobi

Pius Kirui et al.,

Detection, characterization, and analysis of land subsidence in Nairobi using InSAR

https://www.preventionweb.net/publication/detection-characterization-and-analysis-land-subsidence-nairobi-using-insar

Kenya, Kenya Rift Valley

Liu, Y.; Peng, J.; Wang, F.; Zhu, F.; Jia, Z.; He, M. Developmental Mechanism of Rainfall-Induced Ground Fissures in the Kenya Rift Valley. Water 2022, 14, 3215. https://doi.org/10.3390/w14203215

https://www.mdpi.com/2073-4441/14/20/3215/htm

PR China, Cangzhou

Haipeng Guo et al.,

Land subsidence and its affecting factors in Cangzhou, North China Plain.

https://www.frontiersin.org/articles/10.3389/fenvs.2022.1053362/abstract

PR China, Jining

Chen, H., Xue, Y., & Qiu, D. (2022). Numerical simulation of the land subsidence induced by groundwater mining. Cluster Computing. https://doi.org/10.1007/s10586-022-03771-4

PR China, Kunming

Xiao, B. et al., The Monitoring and Analysis of Land Subsidence in Kunming (China)

Supported by Time Series InSAR. Sustainability 2022, 14, 12387.

https://doi.org/10.3390/su141912387

https://www.mdpi.com/2071-1050/14/19/12387/pdf?version=1664445264

PR China, Shanghai

Li D, Li B, Zhang Y, Fan C, Xu H and Hou X (2022) Spatial and temporal characteristics analysis for land subsidence in Shanghai coastal reclamation area using PSInSAR method. Front. Mar. Sci. 9:1000523. doi: 10.3389/fmars.2022.1000523

https://www.readcube.com/articles/10.3389/fmars.2022.1000523

Spain, Southern Coast

Artur Krawczyk et al.,

Land subsidence monitoring in the southern Spanish coast using satellite radar interferometry

https://www.academia.edu/en/2688204/Land_subsidence_monitoring_in_the_southern_Spanish_coast_using_satellite_radar_interferometry

PR China, Yellow River Delta

Liang Huang

Impact of Storm Surge on the Yellow River Delta: Simulation and Analysis

https://mdpi-res.com/d_attachment/water/water-14-03439/article_deploy/water-14-03439.pdf?version=1666976672

Turkey, Konya Closed Basin (see also: USA, California)

Muhammed Yasir Ak et al., Assessing the water security effectiveness of integrated river basin management: Comparative case study analysis for lesson-drawing

https://www.frontiersin.org/articles/10.3389/frwa.2022.1013588/full

USA

Anandhi, A. et al., A Framework for Sustainable Groundwater Management. Water 2022, 14, 3416.

https://doi.org/10.3390/w14213416

https://mdpi-res.com/d_attachment/water/water-14-03416/article_deploy/water-14-03416.pdf?version=1666875205

USA, California

See: Turkey Konya Closed Basin

USA, Houston

Guoquan Wang

New Preconsolidation Heads Following the Long-Term Hydraulic-Head Decline and Recovery in Houston, Texas

https://doi.org/10.1111/gwat.13271

MINING

PR China

Du, Q., Guo, G., Li, H. et al. The Stability Analysis Method of Leveling Datum Points in Mining Areas of Western China Based on SBAS-InSAR Technology. KSCE J Civ Eng (2022).
https://doi.org/10.1007/s12205-022-0635-y

PEAT

Critical importance of conserving (near)pristine peatlands and restoring drained peatlands for climate change mitigation

https://earthenvironmentcommunity.nature.com/posts/critical-importance-of-conserving-near-pristine-peatlands-and-restoring-drained-peatlands-for-climate-change-mitigation

Kunarso, A., Bonner, M.T.L., Blanch, E.W. et al. Differences in Tropical Peat Soil Physical and Chemical Properties Under Different Land Uses: A Systematic Review and Meta-analysis. J Soil Sci Plant Nutr (2022). https://doi.org/10.1007/s42729-022-01008-2

Indonesia

Hein, Lars et al.,

Effects of soil subsidence on plantation agriculture in Indonesian peatlands

https://www.wur.nl/nl/onderzoek-resultaten/leerstoelgroepen/omgevingswetenschappen/milieusysteemanalyse/show-esa.htm?publicationId=publication-way-363033323930

The Netherlands

Research in the polder

The Polderlab is a 10-year project aimed at restoring the biodiversity and landscape quality of the peatland. Leiden University's research should help reverse subsidence, reduce nitrogen and CO_2 emissions and provide a sustainable alternative to agricultural management.

https://www.universiteitleiden.nl/en/news/2022/10/lab-coats-off-and-rain-boots-on-students-do-research-in-the-polder

From the Press

Vietnam, Mekong Delta

CEE's Lee Receives Funding To Continue Flood Analysis Work Along Asia's Mekong River

https://www.egr.uh.edu/news/202210/cees-lee-receives-funding-continue-flood-analysis-work-along-asias-mekong-river