## New Literature

### Sinking Cities

John Edward, PattisonPeter Cooke

Groundwater: Sinking Cities, Urbanisation, Global Drying, Population Growth

https://www.researchgate.net/publication/380275770_Groundwater_Sinking_Cities_Urbanisation_Global_Drying_Population_Growth/references

### Bangladesh

Sarker, Md. S., Kamal, A. S. M. M., Rahman, Md. Z., & Faruki Fahim, A. K. (2024). Land subsidence monitoring using InSAR technique in the southwestern region of Bangladesh. Geomatics, Natural Hazards and Risk, 15(1). https://doi.org/10.1080/19475705.2024.2333795

### Iran

Mahmud Haghshenas Haghighi; Mahdi Motagh

Uncovering the impacts of depleting aquifers: A remote sensing analysis of land subsidence in Iran

https://www.science.org/doi/10.1126/sciadv.adk3039

### Iran, Isfahan-Borkhar Plain

Farkhondeh AHMADI BENI, Mozhgan ENTEZARI, Ali SADEGHI, Afshin SALEHI,

Quantifying Land Subsidence and Its Nexus with Groundwater Depletion in Isfahan-Borkhar Plain: An Integrated Approach Using Radar Interferometry and Spatial Bivariate Relationships,

https://doi.org/10.1016/j.rsase.2024.101248.

(https://www.sciencedirect.com/science/article/pii/S2352938524001125)

***Italy***

F. Cigna et al.,

Assessing Current and Future Land Subsidence Risk Induced by Groundwater Exploitation in Italy Using Earth Observation

https://ieeexplore.ieee.org/document/10537240

***Nigeria, Lagos***

Oluwaseun Franklin Olabode et al.,

Water scarcity in the fast-growing megacity of Lagos, Nigeria and opportunities for managed aquifer recharge

https://www.researchgate.net/publication/380832572_Water_scarcity_in_the_fast-growing_megacity_of_Lagos_Nigeria_and_opportunities_for_managed_aquifer_recharge/references

***PR China, Sinking cities***

https://ueaeprints.uea.ac.uk/id/eprint/94969/1/Accepted_Perspective_for_PURE.pdf

***PR China, Fenwei Basin***

Lu, Q., Li, C., Liu, R. et al. Study on the fracture propagation of ground fissures with syn-depositional structure in Fenwei Basin, China. Sci Rep 14, 10850 (2024). https://doi.org/10.1038/s41598-024-61657-4

***PR China, Shijiazhuang–Baoding–Cangzhou–Hengshui***

Qiuhong yang et al.,

Estimation of Land Deformation and Groundwater Storage Dynamics in Shijiazhuang–Baoding–Cangzhou–Hengshui Using Multi-Temporal Interferometric Synthetic Aperture Radar

https://www.researchgate.net/publication/380538503_Estimation_of_Land_Deformation_and_Groundwater_Storage_Dynamics_in_Shijiazhuang-Baoding-Cangzhou-Hengshui_Using_Multi-Temporal_Interferometric_Synthetic_Aperture_Radar/references#fullTextFileContent

***PR China, Turpan Basin***

Ruren Li et al.,

Wide-Area Subsidence Monitoring and Analysis Using Time-Series InSAR Technology: A Case Study of the Turpan Basin

https://www.researchgate.net/publication/380329459_Wide-Area_Subsidence_Monitoring_and_Analysis_Using_Time-Series_InSAR_Technology_A_Case_Study_of_the_Turpan_Basin/references

*PR China, Wixu*

Shengyi Zhang et al.,

Quantitative Assessment and Impact Analysis of Land Surface Deformation in Wuxi Based on PS-InSAR and GARCH Model

https://www.researchgate.net/publication/379341745_Quantitative_Assessment_and_Impact_Analysis_of_Land_Surface_Deformation_in_Wuxi_Based_on_PS-InSAR_and_GARCH_Model/references

*South-Africa*

Nelson Ndakolute Ndahangwapo et al.,

Land Subsidence Impacts and Optimal Groundwater Management in South Africa

https://www.researchgate.net/publication/380264774_Land_Subsidence_Impacts_and_Optimal_Groundwater_Management_in_South_Africa

*Vietnam, Ca Mau Province*

Anh Van tran et al.,

Land Subsidence Susceptibility Mapping in Ca Mau Province, Vietnam, Using Boosting Models

https://www.mdpi.com/2220-9964/13/5/161

# Call for project information

The form* on Subsidence mitigation measures in urban areas aims at gathering information on existing projects where subsidence is/has been controlled or reduced. (Ground)water management, soil improvements, foundation strengthening, lightweight construction materials are examples of mitigation measures.

Can you think about any project where technical interventions were necessary in order to:

• reduce the effects of land subsidence on constructions?

• prepare the area to accommodate new construction?

• render a construction more resilient to land subsidence and less prone to damaging?

• render an area subsidence-free?

After describing the case study and the technical intervention (or mitigation measure) adopted in that case, you will be asked to assess its performance and give an estimate of its effectiveness.

NOTE: Your name and email address will be treated as confidential and will be used only to contact you in case of additional questions. You can also indicate that you wish not to be contacted in future.

Link to the form:  https://forms.gle/hZFp2reLNKwETDmZ7

Regards,

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Postdoctoral Researcher at Technical University of Delft (TUDelft)

# Taiwan Studies

Following is an overview of papers that were published by Taiwan research teams last year.

This overvie was kindly provided by Chuen-Fa Ni, Ph.D., P.E.,

Distinguished Professor, Graduate Institute of Applied Geology,

National Central University

1. Ouédraogo, Abdoul Rachid, Shaohua Marko Hsu, and Yetmen Wang. "Estimating the Average Magnitude of Pumping Surrounding Monitoring Wells Using Signal Processing." Journal of Hydrologic Engineering 28.4 (2023): 05023002.

2. Yu, Hwa-Lung, et al. "Estimating hydrogeological parameters at groundwater level observation wells without pumping well information." Journal of Hydrology 624 (2023): 129873.

3. Su, Yu-Sheng, et al. "A Study of User Satisfaction with and Acceptance of a Hydrology and Stratum Subsidence Monitoring System." Sensors & Materials 35 (2023).

4. Chung, Chih-Chung, et al. "Laboratory development of TDR automatic distributed settlement sensing for land subsidence monitoring." Measurement 216 (2023): 112938.

5. Chen, Kuan-Hung, et al. "Gravity estimation of groundwater mass balance of sandy aquifers in the land subsidence-hit region of Yunlin County, Taiwan." Engineering Geology 315 (2023): 107021.

6. Ku, Cheng-Yu, and Chih-Yu Liu. "A Novel SpacetimeBoundary-Type Meshless Method for Estimating Aquifer Hydraulic Properties Using Pumping Tests." Mathematics 11.21 (2023): 4497.

7. Liu, Chih-Yu, Cheng-Yu Ku, and Jia-Fu Hsu. "Reconstructing missing time-varying land subsidence data using back propagation neural network with principal component analysis." Scientific Reports 13.1 (2023): 17349.

8. Liu, Chih-Yu, and Cheng-Yu Ku. "A Novel ANN-Based Radial Basis Function Collocation Method for Solving Elliptic Boundary Value Problems." Mathematics 11.18 (2023): 3935.

9. Ku, Cheng-Yu, Chih-Yu Liu, and Li-Dan Hong. "Solving subsurface flow toward wells in layered soils using hybrid method of fundamental solutions." Engineering Analysis with Boundary Elements 151 (2023): 344-359.

10. Ku, Cheng-Yu, and Chih-Yu Liu. "Modeling of land subsidence using GIS-based artificial neural network in Yunlin County, Taiwan." Scientific Reports 13.1 (2023): 4090.

11. Chang, Chia-Hao, et al. "Effects of Soil Type and Thermal Boundary on Predicting Temperature Profiles and Groundwater Fluxes." Groundwater 61.2 (2023): 203-214.