



Newsletter of the Unesco Land Subsidence International Initiative

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Special Issue

Monitoring and Evaluation of Geological Disaster Using Remote Sensing Technology

https://www.mdpi.com/journal/remotesensing/special_issues/9Y15N933VD

Impact Studies

Laureline Josset et al.,

Public Health, Socioeconomic and Environmental

Impacts of Urban Land Subsidence

<https://spp.ucr.edu/sites/default/files/2024-02/wp-24-01.pdf>

Tsimur Davydzhenka et al.,

Unveiling the Global Extent of Land Subsidence: The Sinking Crisis

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2023GL104497#:~:text=Land%20subsidence%20is%20a%20destructive,methods%20presents%20a%20major%20challenge.>

Mapping

Zhao, R., Arabameri, A. & Santosh, M. Land subsidence susceptibility mapping: a new approach to improve decision stump classification (DSC) performance and combine it with four machine learning algorithms. *Environ Sci Pollut Res* (2024). <https://doi.org/10.1007/s11356-024-32075-w>

Rahmani, P., Gholami, H. & Golzari, S. An interpretable deep learning model to map land subsidence hazard. *Environ Sci Pollut Res* (2024). <https://doi.org/10.1007/s11356-024-32280-7>

Modelling

Ahmad Tourei et al.,

A hydromechanical EFG-based Model for Numerical Simulation of Land Subsidence Induced by Groundwater Extraction in Anisotropic Aquifers

<https://eartharxiv.org/repository/view/6731/>

New Literature

General

Tsimur Davydzhenka et al.,

Unveiling the Global Extent of Land Subsidence: The Sinking Crisis

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2023GL104497#:~:text=Land%20subsidence%20is%20a%20destructive,methods%20presents%20a%20major%20challenge.>

India

Ashwani Raju, Ramesh P. Singh, Praveen Kumar Kannojiya, Abhinav Patel, Saurabh Singh, Mitali Sinha,

Declining groundwater and its impacts along ganga riverfronts using combined Sentinel-1, GRACE, water levels, and rainfall data,

<https://doi.org/10.1016/j.scitotenv.2024.170932>.

(<https://www.sciencedirect.com/science/article/pii/S0048969724010714>)

Indonesia, Semarang

Yuwono, B.D., Abidin, H.Z., Poerbandono et al. Mapping of flood hazard induced by land subsidence in Semarang City, Indonesia, using hydraulic and spatial models. Nat Hazards (2024).

<https://doi.org/10.1007/s11069-023-06398-9>

Iran, Isfahan

Alireza Sharifi et al.,

Can river flow prevent land subsidence in urban areas?,

<https://doi.org/10.1016/j.scitotenv.2024.170557>.

(<https://www.sciencedirect.com/science/article/pii/S0048969724006946>)

Iran, Tehran

Aliakbar Shamsipour, Shayesteh Jahanshahi, Seyed Sajad Mousavi, Faezeh Shoja, Roghayeh Ansari, Safiyeh Tayebi, Seyed Ali Alavi, Ayyoob Sharifi,

Assessing and Mapping Urban Ecological Resilience using the Loss-Gain Approach: A Case Study of Tehran, Iran,

<https://doi.org/10.1016/j.scs.2024.105252>.

(<https://www.sciencedirect.com/science/article/pii/S2210670724000817>)

Mexico, Chinampa System

Mariana Bobadilla García,

Understanding the Chinampa system to identify opportunities for better governance.

<https://edepot.wur.nl/647319>

Pakistan, Rawalpindi; Islamabad

Waqar Ali Zafar et al.,

Time series subsidence evaluation using NSBAS InSAR: a case study of twin megacities (Rawalpindi and Islamabad) in Pakistan

<https://www.researchgate.net/publication/378463104> Time series subsidence evaluation using NSBAS InSAR a case study of twin megacities Rawalpindi and Islamabad in Pakistan

PR China, Beijing

Min Shi et al.,

Land subsidence in Beijing: response to the joint influence of the South-to-North Water Diversion Project and ecological water replenishment, observed by satellite radar interferometry

<https://www.researchgate.net/publication/378240124> Land subsidence in Beijing response to the joint influence of the South-to-North Water Diversion Project and ecological water replenishment observed by satellite radar interferometry

PR China, North China Plain

Yuyi Wang et al.,

Integrating SBAS-InSAR and Random Forest for Identifying and Controlling Land Subsidence and Uplift in a Multi-Layered Porous System of North China Plain

<https://www.researchgate.net/publication/378576895> Integrating SBAS-InSAR and Random Forest for Identifying and Controlling Land Subsidence and Uplift in a Multi-Layered Porous System of North China Plain/references

Samoa

Austin T Barnes et al.,

Rising Sea Levels and the Increase of Shoreline Wave Energy at American Samoa

<https://www.researchgate.net/publication/378335364> Rising Sea Levels and the Increase of Shoreline Wave Energy at American Samoa

Spain, Gallur

Gracia, A.; Torrijo, F.J.; Garzón-Roca, J.; Pérez-Picallo, M. Identification and Mitigation of Subsidence in Karstic Areas with Sustainable Geotechnical Structures: A Case Study in Gallur (Spain). Preprints 2024, 2024020921. <https://doi.org/10.20944/preprints202402.0921.v1>

USA

Steve Gliessman (2024) Groundwater overdrafting: a looming crisis, Agroecology and Sustainable Food Systems, 48:4, 461-464, DOI: 10.1080/21683565.2024.2315849

<https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F21683565.2024.2315849>

USA, Baton Rouge

Carolina Hurtado-Pulido et al.,

Variations in Subsidence Patterns in the Gulf of Mexico Passive Margin From Airborne-LiDAR Data and Time Series InSAR: Baton Rouge Case Study

https://www.researchgate.net/publication/378433956_Variations_in_Subsidence_Patterns_in_the_Gulf_of_Mexico_Passive_Margin_From_Airborne-LiDAR_Data_and_Time_Series_InSAR_Baton_Rouge_Case_Study

Peat

The Netherlands

Mandy A. Van Den Ende et al.,

The transformative potential of experimentation as an environmental governance approach: The case of the Dutch peatlands

[https://onlinelibrary.wiley.com/doi/full/10.1002/eet.2098#:~:text=Land%20subsidence%20is%20one%20of,and%20relatedly%2C%20animal%20welfare\).](https://onlinelibrary.wiley.com/doi/full/10.1002/eet.2098#:~:text=Land%20subsidence%20is%20one%20of,and%20relatedly%2C%20animal%20welfare).)

Ralf Aben et al.,

Using automated transparent chambers to quantify CO₂ emissions and potential emission reduction by water infiltration systems in drained coastal peatlands in the Netherlands

https://www.researchgate.net/publication/378389479_Using_automated_transparent_chambers_to_quantify_CO_2_emissions_and_potential_emission_reduction_by_water_infiltration_systems_in_drained_coastal_peatlands_in_the_Netherlands

Video

Ghana, Volta Delta

Seminar:

ASSESSING THE CONTRIBUTION OF COASTAL LAND SUBSIDENCE TO POTENTIAL SEALEVEL; THE GHANA'S VOLTA DELTA

Duration: 84 minutes

https://www.youtube.com/watch?v=jg3ef-fzIB8&ab_channel=MeteorologicalVirtualSeminarSeriesGhana

Indonesia, Timbuloko

An Indonesian village adapts to life on sinking land

An impressive video of village life in a sinking environment:

<https://www.dw.com/en/an-indonesian-village-adapts-to-life-on-sinking-land/video-68190293>

From the Press

USA, Arizona

Giant Fissures Are Opening Up Around The U.S. Due To Humans' Groundwater Over Usage

<https://twistedifter.com/2024/02/giant-fissures-are-opening-up-around-the-u-s-due-to-humans-groundwater-over-usage/>