

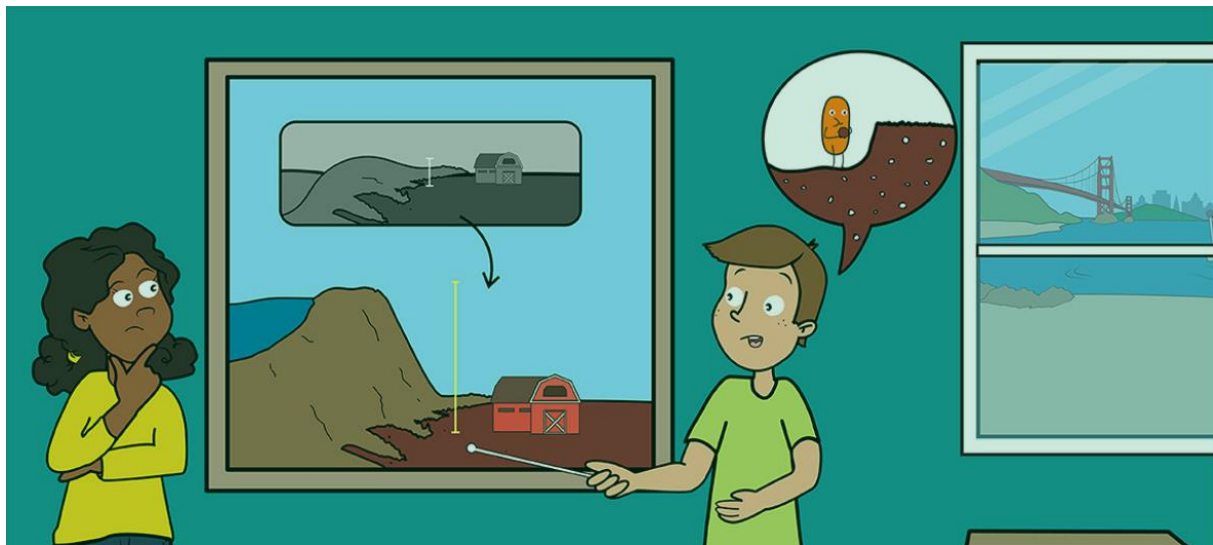


Newsletter of the Unesco Land Subsidence International Initiative

Vol. 25, April 2022

Land Subsidence for Education

The Dangerous Disappearance of Delta Dirt



<https://kids.frontiersin.org/articles/10.3389/frym.2022.613190>

Scientific Group

The new established group on "Science, Economics and Policy of Global GW Over-Extraction and Land Subsidence" (an initiative of Ariel Dinar, University of California) launched a website:

The website can be found on <https://waterdialogue.ucr.edu/land-subsidence> and was designed and created by Dr. Mehdi Nemati from UCR.

PhD-positions

Iran, Teheran

The new established UNESCO Chair on Coastal Geo-Hazard Analysis in Tehran, Iran offers Ph.D and Post Doc positions:

The advertisement is a rectangular graphic with a teal header and footer. The header contains the text "Ph.D and Post Doc project proposition" in white. The middle section is white and contains the following elements from left to right: the circular logo of the Research Institute for Earth Sciences (RIES) of the Geological Survey of Iran; the text "UNESCO Chair on Coastal Geo-Hazard Analysis" and "Research Institute for Earth Sciences Geological Survey of Iran"; the UNESCO logo and the uniTwin logo; and the text "unesco Chair". The footer is teal and contains the text "For more information see web site: www.ries.ac.ir" in white.

www.ries.ac.ir

The Netherlands, Delft

PhD Position Physico-biogeochemical processes in the transition of sediment to soil

<https://www.academictransfer.com/en/311237/phd-position-physico-biogeochemical-processes-in-the-transition-of-sediment-to-soil/>

The project Sediment-to-Soil (S2S), financed by the Dutch Science Foundation (NWO), will study, optimise and predict the transition of fine-grained sediment dredged from ports, waterways, barrages or sluices, to soil for use as alternative earthen construction material.

Deadline, May 5th , 2022

For more information about this vacancy, please contact Dr. habil. Julia Gebert, e-mail:

j.gebert@tudelft.nl

New Literature

Coastal Cities

Pei-Chin Wu et al., Subsidence in Coastal Cities Throughout the World Observed by InSAR

https://www.researchgate.net/publication/359462526_Subsidence_in_Coastal_Cities_Throughout_the_World_Observed_by_InSAR

Canada, Iqaluit

Ma, D.; Motagh, M.; Liu, G.; Zhang, R.; Wang, X.; Zhang, B.; Xiang, W.; Yu, B. Thaw Settlement Monitoring and Active Layer Thickness Retrieval Using Time Series COSMO-SkyMed Imagery in Iqaluit Airport. *Remote Sens.* 2022, 14, 2156. <https://doi.org/10.3390/rs14092156>

<https://www.mdpi.com/2072-4292/14/9/2156/htm>

Egypt, Lake Burullus

Keshta, A.E. et al., Loss of Coastal Wetlands in Lake Burullus, Egypt: A GIS and

Remote-Sensing Study. *Sustainability* 2022, 14, 4980. <https://doi.org/10.3390/su14094980>

<https://www.mdpi.com/2071-1050/14/9/4980/pdf?version=1650540443>

India, Lucknow

Ashwani Raju, Ritika Nanda, Anjali Singh & Kapil Malik (2022) Multi-Temporal Analysis of Groundwater Depletion-Induced Land Subsidence in Central Ganga Alluvial Plain, Northern India, Geocarto International, DOI: 10.1080/10106049.2022.2060322

<https://www.tandfonline.com/doi/abs/10.1080/10106049.2022.2060322?journalCode=tgei20>

Indonesia,

Akbar Kurniawan et al.,

Literatur Review: Perbandingan Berbagai Teknik Pemodelan Land Subsidence

Comparison of Land Subsidence Modelling Technique

<https://iptek.its.ac.id/index.php/geoid/article/viewFile/11340/6637>

Iran, Isfahan

Rafiee, M., Ajalloeian, R., Dehghani, M. et al. Artificial neural network modeling of the subsidence induced by overexploitation of groundwater in Isfahan-Borkhar Plain, Iran. Bull Eng Geol Environ 81, 170 (2022). <https://doi.org/10.1007/s10064-022-02646-7>

Tang Wen, Wang Tiewang, Alireza Arabameri, Omid Asadi Nalivan, Subodh Chandra Pal, Asish Saha & Romulus Costache (2022) Land-subsidence susceptibility mapping: Assessment of an adaptive neuro-fuzzy inference system–genetic algorithm (ANFIS–GA) hybrid model, Geocarto International,

DOI: 10.1080/10106049.2022.2066198

<https://www.tandfonline.com/doi/full/10.1080/10106049.2022.2066198?scroll=top&needAccess=true>

Iran, Lake Urmia Basin

Feizizadeh, B., Lakes, T., Omarzadeh, D. et al. Scenario-based analysis of the impacts of lake drying on food production in the Lake Urmia Basin of Northern Iran. Sci Rep 12, 6237 (2022).

<https://doi.org/10.1038/s41598-022-10159-2>

Kenia, Nairobi

Kirui, P., Oiro, S., Waithaka, H. et al. Detection, characterization, and analysis of land subsidence in Nairobi using InSAR. Nat Hazards (2022). <https://doi.org/10.1007/s11069-022-05296-w>

PR China, Kunming City

Zhou, D.; Zuo, X.; Zhao, Z. Constructing a Large-Scale Urban Land Subsidence Prediction Method Based on Neural Network Algorithm from the Perspective of Multiple Factors. Remote Sens. 2022, 14, 1803. <https://doi.org/10.3390/rs14081803>

<https://www.mdpi.com/2072-4292/14/8/1803>

PR China, Shanghai

Ru Wang, Mengshi Yang, Tianliang Yang, Jinxin Lin & Mingsheng Liao (2022) Decomposing and mapping different scales of land subsidence over Shanghai with X- and C-Band SAR data stacks, International Journal of Digital Earth, 15:1, 478-502, DOI: 10.1080/17538947.2022.2036835

<https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F17538947.2022.2036835>

Turkey, Küçük Menderes Graben

Imamoglu, M., Balik Sanli, F., Cakir, Z. et al. Rapid ground subsidence in the Küçük Menderes Graben (W. Turkey) captured by Sentinel-1 SAR data. Environ Earth Sci 81, 221 (2022).

<https://doi.org/10.1007/s12665-022-10339-3>

Saudi Arabia, Al-Yutamah Valley

Aldaajani, T. et al., Using InSAR Time Series to Monitor Surface Fractures and Fissures in the Al-Yutamah Valley, Western Arabia. Remote Sens. 2022, 14, 1769. <https://doi.org/10.3390/rs14081769>

<https://www.mdpi.com/2072-4292/14/8/1769/pdf>

Saudi Arabia

Othman, A., Abdelmohsen, K. (2022). A Geophysical and Remote Sensing-Based Approach for Monitoring Land Subsidence in Saudi Arabia. In: Al Saud, M.M. (eds) Applications of Space Techniques on the Natural Hazards in the MENA Region. Springer, Cham.

https://doi.org/10.1007/978-3-030-88874-9_20

Vietnam, Mekong Delta

Tran Viet Hoan et al.,

An Improved Groundwater Model Framework for Aquifer Structures of the Quaternary-Formed Sediment Body in the Southernmost Parts of the Mekong Delta, Vietnam

April 2022 Hydrology 9(4):61 Follow journal

DOI: 10.3390/hydrology9040061

<https://www.researchgate.net/publication/359775378> An Improved Groundwater Model Framework for Aquifer Structures of the Quaternary-Formed Sediment Body in the Southernmost Parts of the Mekong Delta Vietnam

Mining

Australia, Queensland

Australian farming practices could be affected by CSG subsidence

<https://www.geplus.co.uk/news/australian-farming-practices-could-be-affected-by-csg-subsidence-27-04-2022/>

Australia

Khanal, M.; Qu, Q.; Zhu, Y.; Xie, J.; Zhu, W.; Hou, T.; Song, S. Characterization of Overburden Deformation and Subsidence Behavior in a Kilometer Deep Longwall Mine. *Minerals* **2022**, *12*, 543.

<https://doi.org/10.3390/min12050543>

<https://www.mdpi.com/2075-163X/12/5/543>

Modelling

Wang, Shihao, Zhang, Yanbin, Liu, Zhe, and Xian-huan Wen. "A Semianalytical Formulation for Estimating Induced Surface Subsidence of a Poroelastic Reservoir." *SPE J.* (2022); doi:

<https://doi.org/10.2118/209806-PA>

Monitoring

USA, California

A set of Land Subsidence data in California:

WDL Ground Surface Displacement - Land Subsidence Monitoring

<https://data.cnra.ca.gov/dataset/wdl-ground-surface-displacement>

Peat

Indonesia, Borneo

NIVEDITA SANWLANI et al.,

Rising dissolved organic carbon concentrations in coastal waters of northwestern Borneo related to tropical peatland conversion.

<https://www.science.org/doi/10.1126/sciadv.abi5688>

the Netherlands

A YouTube film about land subsidence in the Netherlands with Gilles Erkens. (4.35 minutes)

https://www.youtube.com/watch?v=gIn7ReHjQg0&ab_channel=Deltares

From the Press

Brasil, Braksem mine

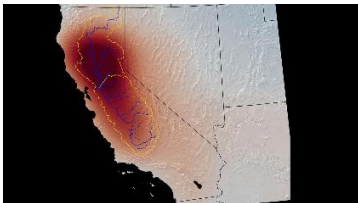


The Bebedouro neighborhood was abandoned because of ground subsidence caused by the Braksem mine. (AP: Eraldo Peres)

<https://www.abc.net.au/news/2022-04-03/urban-mining-transforms-brazil-neighborhood-into-ghost-town/100959712>

USA, California

NASA Researchers Untangle Puzzling Patterns of Sinking and Rising Land To Monitor Underground Water Loss



THIS MAP SHOWS CHANGES IN THE MASS OF WATER, BOTH ABOVE GROUND AND UNDERGROUND, IN CALIFORNIA FROM 2003 TO 2013, AS MEASURED BY NASA'S GRACE SATELLITE. THE DARKEST RED INDICATES THE GREATEST WATER LOSS. THE CENTRAL VALLEY IS OUTLINED IN YELLOW; THE TULARE BASIN COVERS ABOUT THE SOUTHERN THIRD. EXTREME GROUNDWATER DEPLETION HAS CONTINUED TO THE PRESENT. CREDIT: NASA/GSFC/SVS

<https://scitechdaily.com/nasa-researchers-untangle-puzzling-patterns-of-sinking-and-rising-land-to-monitor-underground-water-loss/>

USA, Houston

Rapidly sinking Houston: sinking nearly 2 centimeters a year, may it "disappear" in less than 100 years?

<https://inf.news/en/world/5e634fd4d3df51ec9c2810b9415cc142.html>

Vietnam, Ho Chi Minh City

HCMC seeks Japanese cooperation in sinking land response

<https://e.vnexpress.net/news/news/hcmc-seeks-japanese-cooperation-in-sinking-land-response-4448636.html>

Vietnam, Mekong Delta

Netherlands supports Mekong Delta's sustainable development

<https://en.vietnamplus.vn/netherlands-supports-mekong-delta-s-sustainable-development/224822.vnp>