



Newsletter of the Unesco Land Subsidence International Initiative

Vol.36, April 2023

TISOLS 2023

Presentations on YouTube

TISOLS 2023 - Verberne et al - Disentangling shallow and deep sources of subsidence on a regional...

https://www.youtube.com/watch?v=u4e4gaW7OGg&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Korff et al - Systematic assessment of damage to buildings due to groundwater...

https://www.youtube.com/watch?v=KQY7Z-mcggQ&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Stouthamer et al - Dutch national scientific research program on land subsidence...

https://www.youtube.com/watch?v=hkzvNU50y20&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Erkens and Stouthamer - The 6M approach to land subsidence

https://www.youtube.com/watch?v=xJ2xm5XHeAs&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Erkens and Van Asselen - The relation between land subsidence and CO2 emission in

https://www.youtube.com/watch?v=8fletqSG-Kc&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Fokker et al - Impacts of deeply instigated subsidence in the Netherlands

https://www.youtube.com/watch?v=9Ce6-Fj17qs&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Keynote - Simon Wdowinski

https://www.youtube.com/watch?v=kOwdvNR7xbw&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Lexmond et al - Quantifying shrinkage of marine and fluvial clay deposits by means...

https://www.youtube.com/watch?v=bsk9QVdGznA&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Tolunay et al - Decomposing Landscape: Oxic and Anoxic Microbial Activity in Dutch...

https://www.youtube.com/watch?v=VOgKnTyJT58&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Hanssen - Land subsidence monitoring in the Netherlands

https://www.youtube.com/watch?v=LaX-q4DDjY&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Hoogland et al - Investigating the effectiveness of drain infiltration to minimize..

https://www.youtube.com/watch?v=1Xl1jV8f1xU&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Keynote - Michiel van der Meulen

https://www.youtube.com/watch?v=6CanAFjly4o&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Kok, Hommes-Slag et al - Economic analyses of urban subsidence in Gouda and Amsterdam

https://www.youtube.com/watch?v=1WMI7lnV0mc&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Liebrand et al - Living with Land Subsidence, Precarious Livelihoods and Policy ...

https://www.youtube.com/watch?v=O3nmUOBg0Vc&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Minderhoud et al - Improving Subsidence Modelling of Different Depth Domains in the...

https://www.youtube.com/watch?v=wl6brk40o40&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Tiehatten et al - How to reach societal impact with land subsidence research

https://www.youtube.com/watch?v=zbn5Co209QY&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Herrmann et al - Long-term Analysis of Peatland Subsidence in two intensive...

https://www.youtube.com/watch?v=eRLijTFuKcG&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Geurts et al - Subsidence-induced damage to the built environment

https://www.youtube.com/watch?v=ECiMerM8tvA&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - De Wit et al - Reconstructing Holocene regional subsidence in the Netherlands

https://www.youtube.com/watch?v=GwcH93YCckQ&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Van Eijs et al - Groningen data driven subsidence forecast

https://www.youtube.com/watch?v=YWO1s3TqHM&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Conroy et al - First Results of Dutch Peatland Subsidence Observations Using InSAR

https://www.youtube.com/watch?v=CVbhCjD2YHM&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Smith - Exploring Drivers of Spatio-Temporal Variation of Subsidence in the...

https://www.youtube.com/watch?v=D3Qon4mCE9o&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Kooi and Erkens -Modelling subsidence due to Holocene soft-sediment deformation in...

https://www.youtube.com/watch?v=UN8Hi9Jm_YY&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Li, Zhu, et al - Understanding Land Subsidence in Beijing Plain Before and After...

https://www.youtube.com/watch?v=t_DPe0o7LSE&ab_channel=UnescoLandSubsidenceInternationalInitiative

TISOLS 2023 - Pelsma et al - A social costs and benefits analysis of peat soil-subsidence towards...

https://www.youtube.com/watch?v=TphrZLJdnkY&ab_channel=UnescoLandSubsidenceInternationalInitiative

Methods

Farid Fazel Mojtahedi et al.,

Spatiotemporal deep learning approach for estimating water content profiles in soil layers

EDP Sciences April 2023E3S Web of Conferences 382(5):22003

DOI: 10.1051/e3sconf/202338222003

https://www.researchgate.net/publication/370248109_Spatiotemporal_deep_learning_approach_for_estimating_water_content_profiles_in_soil_layers

New Literature

Egypt, Nile Delta

Ismail Abd-Elaty & Ismail Fathy & Alban Kuriqi & Am Pris John & Salvatore Straface & Elsayed M. Ramadan, 2023. "Impact of Modern Irrigation Methods on Groundwater Storage and Land Subsidence in High-water Stress Regions," *Water Resources Management: An International Journal*, Published for the European Water Resources Association (EWRA), Springer;European Water Resources Association (EWRA), vol. 37(4), pages 1827-1840, March.

https://ideas.repec.org/a/spr/waterr/v37y2023i4d10.1007_s11269-023-03457-5.html

Greece, Messolonghi; Aitolikon

Nikolaos Antoniadis et al.,

Land Subsidence Phenomena vs. Coastal Flood Hazard—The Cases of Messolonghi and Aitolikon (Greece)

April 2023 *Remote Sensing* 15(8):2112

https://www.researchgate.net/publication/370076795_Land_Subsidence_Phenomena_vs_Coastal_Flood_Hazard-The_Cases_of_Messolonghi_and_Aitolikon_Greece

India, Bengaluru

K. R. Raghavendra

Land Subsidence Monitoring of Bengaluru: An Application of Image Processing

https://link.springer.com/chapter/10.1007/978-981-19-9819-5_35

Indonesia, Cirebon

Brian Bramanto et al.,

Geodetic evidence of land subsidence in Cirebon, Indonesia, *Remote Sensing Applications: Society and Environment*, Volume 30, 2023, 100933, ISSN 2352-9385,

<https://doi.org/10.1016/j.rsase.2023.100933>.

(<https://www.sciencedirect.com/science/article/pii/S2352938523000150>)

Indonesia, Surabaya

Ira Mutiara Anjasmara et al.,

Land subsidence analysis in Surabaya urban area using time series InSAR method

<https://pubs.aip.org/aip/acp/article/1987/1/020071/909549/Land-subsidence-analysis-in-Surabaya-urban-area>

Iran, Asabad

Ahmadi, S., Afshar, R.S., Fathollahy, M. et al. Identification of land subsidence hazard in asadabad plain using the PS-InSAR method and its relationship with the geological characteristics. *Nat Hazards* (2023). <https://doi.org/10.1007/s11069-023-05963-6>

Iran,

F. Rafiei et al.,

ASSESSMENT OF LAND DEFORMATION AND LAND USE RELATIONSHIP IN GARMSAR ALLUVIAL FAN USING SENTINEL-1 DATA

DOI: 10.5194/isprs-archives-XLVIII-M-1-2023-271-2023

https://www.researchgate.net/publication/370192022_ASSESSMENT_OF_LAND_DEFORMATION_AND_LAND_USE_RELATIONSHIP_IN_GARMSAR_ALLUVIAL_FAN_USING_SENTINEL-1_DATA

Korea

Sungyeol Lee et al.,

Prediction Modeling of Ground Subsidence Risk Based on Machine Learning Using the Attribute Information of Underground Utilities in Urban Areas in Korea

<https://www.mdpi.com/2076-3417/13/9/5566>

Taiwan

Wei-Chia Hung et al.,

Toward sustainable inland aquaculture: Coastal subsidence monitoring in Taiwan,

Remote Sensing Applications: Society and Environment, Volume 30,2023,100930,

ISSN 2352-9385,

<https://doi.org/10.1016/j.rsase.2023.100930>.

(<https://www.sciencedirect.com/science/article/pii/S2352938523000125>)

USA, Virginia

Study: Sinking ground in parts of Chesapeake Bay area will worsen flooding from rising sea levels and storm surges

<https://www.eurekaalert.org/news-releases/987613>

Methods

Ming Liang et al.,

AHP-EWM Based Model Selection System for Subsidence Area Research

April 2023Sustainability 15(9):7135

DOI: 10.3390/su15097135

https://www.researchgate.net/publication/370285936_AHP-EWM_Based_Model_Selection_System_for_Subsidence_Area_Research

Mining

Greece, Amintayo sub-basin

Ploutarchos Tzampoglou et al.,

Hydrogeological Hazards in Open Pit Coal Mines—Investigating Triggering Mechanisms by Validating the European Ground Motion Service Product with Ground Truth Data

<https://www.mdpi.com/2073-4441/15/8/1474>

From the Press

Bangladesh

Sea levels in Bangladesh could rise twice as much as predicted

New research found that the situation is much more dire than previously assumed

<https://www.tbsnews.net/environment/sea-level-estimated-rise-twice-much-predicted>

Lebanon

The MedProgramme continues its efforts to assist Lebanon in advancing with sustainable natural resources management and water, food and energy security.

<https://www.gwp.org/en/GWP-Mediterranean/WE-ACT/News-List-Page/20232/lebanon-news-item/2nd-multistakeholder-consultation/>

the Netherlands, Gouda

Opening of the Knowledge Centre 'Land Subsidence' for the Netherlands, during TISOLS



Nepal

Nepal is Sinking? - Land subsidence

https://www.youtube.com/watch?v=lbNBUq05iSw&ab_channel=rabil.0

New Zealand

NZ - Moving everyone out of flood risk areas - is it feasible?

<https://www.coastalnewstoday.com/post/nz-moving-everyone-out-of-flood-risk-areas-is-it-feasible>

USA, Norfolk

For the fifth year in a row, Norfolk takes the top spot for sea-level rise on the East Coast

https://news.yahoo.com/fifth-row-norfolk-takes-top-214300509.html?guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAFUp9qnVB2ZlPTJKMvzqDpeTMvU53moqtYEU5fZQSTivKITvMDr_VnQSbDzIV60PP6YWgi7hcBe8h5m9Po_EUwGZbw5ji2B5oDrvRCzmmjVIKoiN1NU1DoYrROVSo0BlId15qHjvVzeNkXFeNjB0EX75UWjxcMZOb8TvdXhFHUB9f