United Nations Educational, Scientific and Cultural Organization

Intergovernmental Hydrological Programme

UNESCO Land Subsidence International Initiative

Newsletter of the Unesco Land Subsidence International Initiative

Vol.34, February 2023

In a few weeks we will meet in TISOLS! Look at the website: https://www.tisols.org/

Also look the renewed website of LaSII: https://www.landsubsidence-unesco.org/

New Literature

Egypt

Abd-Elaty, I., Fathy, I., Kuriqi, A. *et al.* Impact of Modern Irrigation Methods on Groundwater Storage and Land Subsidence in High-water Stress Regions. *Water Resour Manage* (2023). https://doi.org/10.1007/s11269-023-03457-5

Indonesia

Sukmo Pinuji et al.,

Is Obliterated Land Still Land? Tenure Security and Climate Change in Indonesia

https://www.mdpi.com/2073-445X/12/2/478/htm

Indonesia, Central Java

(Power Point Presentation)

https://phys.org/news/2023-02-subsidence-japan-consecutive-dinsar-law.html

Iran, Central Iran

Yasaman Abolghasemi et al.,

Modeling of land subsidence induced by groundwater withdrawal using Artificial Neural Network (A case study in central Iran)

https://geopersia.ut.ac.ir/article_90203.html

Iran, data portal

Jessica Payne et al.,

Characterising Iran's rapidly subsiding regions using Earth Observation data

DIGITAL ELEVATION MODELGROUNDWATERIRANLAND SUBSIDENCELASER ALTIMETRYSAR INTERFEROMETRY

https://essopenarchive.org/doi/full/10.22541/essoar.167689455.59162385/v1

PR China, Cangzhou

Wang, X., Luo, Z., Li, Z. *et al.* The impact of groundwater recharge on land subsidence: a case study from the Cangzhou test area, Hebei Province, China. *Hydrogeol J* (2023). https://doi.org/10.1007/s10040-023-02603-y

Datasets

Europe

First annual update of the European Ground Motion Service products now available

https://land.copernicus.eu/

Great Britain, Shrink-Swell behaviour

https://www.bgs.ac.uk/news/six-bgs-datasets-for-assessing-shrink-swell-subsidence-hazards/

Iran, data-portal (99 regions)

https://comet-subsidencedb.org/

Nigeria,

Nixon N. Nduji et al.,

A Geo-Hazard Risk Assessment Technique for Analyzing Impacts of Surface Subsidence within Onyeama Mine, South East Nigeria

Land 2023, 12(3), 575; https://doi.org/10.3390/land12030575

https://www.mdpi.com/2073-445X/12/3/575/review_report

Special Issue

Special Issue "Simulations and Projections Applied in Different Water Systems: Hydrological and Hydrogeological Models Selection, Errors, and Uncertainties"

Deadline for manuscript submissions: **30 August 2023**

Keywords

- inverse problems
- numerical models
- artificial intelligence
- machine learning
- uncertainty analysis
- single models
- multiple models
- groundwater hydraulics
- water quality
- groundwater vulnerability and risk
- ***land subsidence***
- rainfall–run off models

https://www.mdpi.com/journal/water/special_issues/BY2KA3E460

Seminar

Stanford University

Geophysics Seminar - Ke Wang, "Widespread Land Subsidence Along the Gulf Coast and its Implication on Future Storm Surge Risk," UT Austin

Sponsored by Geophysics Department

Thursday, March 9, 2023

12pm to 1pm PT

https://events.stanford.edu/event/geophysics_seminar_-_ben_fernando_from_mars_to_icy_moons_seismology_at_the_extremes_of_the_solar_system_christ_church_college_oxford

EGU Conference

EGU General Assembly 2023 Vienna, Austria & Online | 23–28 April 2023

Posters on site: Wed, 26 Apr, 10:45–12:30 | Hall A

On-site presentation

Toward prediction of land subsidence assisted by artificial intelligence approaches

Nima Shokri, Mehdi Mahdavi Ara, Sobhan Ansari, and Mohammad Sharifi

From the Press

Bangladesh, Dhaka

Climate migrants escaping to Dhaka find that their new home is also sinking

https://scroll.in/article/1042988/climate-migrants-escaping-to-dhaka-find-that-their-new-home-is-also-sinking

Iran

Land subsidence bill being finalized

https://www.tehrantimes.com/news/482164/Land-subsidence-bill-being-finalized

Japan

Investigating land subsidence in Japan through consecutive DInSAR and the law of material conservation

https://phys.org/news/2023-02-subsidence-japan-consecutive-dinsar-law.html

USA, New Orleans

Is the Chesapeake Bay's water rising or is the land sinking?

https://www.chesapeakebay.net/news/blog/is-the-chesapeake-bays-water-rising-or-is-the-land-sinking

YOUTUBE

USA, California

A nice, 1 h 20 minutes during Youtube film from USGS (with Michelle Sneed performing) explains the mechanisms of Land Subsidence for a broad public.

The link between groundwater use and sinking landscapes What is land subsidence, where does it happen, and why does it matter? How do weather and land use affect land subsidence in California? Why are we optimistic about the future of land subsidence in California?