



Newsletter of the Unesco Land Subsidence International Initiative

Vol.38, June 2023

Winners Frans Barends Award




We congratulate Philip Conroy with the first Frans Barends-award for early career researchers on land subsidence! Philip was credited for his groundbreaking work on peatland subsidence observations using InSAR. The award was given at a special ceremony during the 10th International Symposium On Land Subsidence in attendance of the family of the late Frans Barends.

We also congratulate Manon Verberne and Selena Baldan as runner-ups! Manon and Selena were acknowledged for their novel approach on subsidence modelling.

NEW LITERATURE

United Nations Office for Disaster Risk Reduction (UNDRR)



 **UNDRR**
UN Office for Disaster Risk Reduction

Land subsidence

[lænd səb'saɪdəns] - *noun phrase*

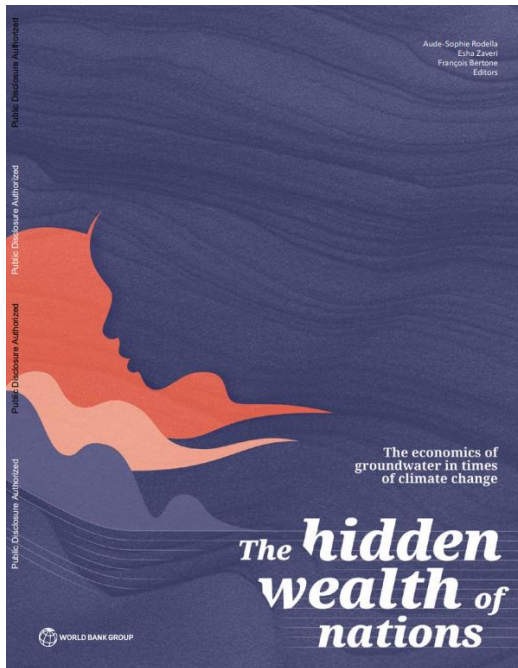
**A lowering or collapse
of the ground.**

Source: BGS, 2020

https://uy.linkedin.com/posts/undrr_know-your-hazards-land-subsidence-many-activity-7038493692390735872-1s9E

World Bank

An important issue of the Worldbank, about the economics of groundwater in times of Climate Change. The report also pays attention on 'sinking cities' and refers to, among others, the publication of the LaSII-members (Herrera et al,)



https://documents1.worldbank.org/curated/en/099257006142358468/pdf/IDU0fb2550de013100434708d920a3e3bec6afb1.pdf?intcid=ecr_hp_headerQ_en_ext

Ghana

VULNERABILITY OF GHANA'S COAST TO RELATIVE SEA-LEVEL RISE: A SCOPING REVIEW

<https://www.afd.fr/en/ressources/vulnerability-ghanas-coast-relative-sea-level-rise-scoping-review>

Indonesia, Jakarta

Irfan Marwanza et al.,

LAND SUBSIDENCE AND GEOTECHNICAL IMPACT OF JAKARTA KOTA AREA

DOI: 10.25105/urbanenvirotech.v6i2.13981

https://www.researchgate.net/publication/371495514_LAND_SUBSIDENCE_AND_GEOTECHNICAL_IMPACT_OF_JAKARTA_KOTA_AREA

Iran, Abarkuh Plain

Sayed Mohammad Javad Mirzadeh et al.,

Transition and Drivers of Elastic to Inelastic Deformation in the Abarkuh Plain from InSAR Multi-Sensor Time Series and Hydrogeological Data

<https://doi.org/10.1029/2023JB026430>

Iran, Daumeghan plain

Lei Zhang et al.,

Land subsidence susceptibility mapping: comparative assessment of the efficacy of the five models

DOI: 10.1007/s11356-023-27799-0

https://www.researchgate.net/publication/371253364_Land_subsidence_susceptibility_mapping_comparative_assessment_of_the_efficacy_of_the_five_models

Italy, Emilia Romagna

Cherubini, C.; Sathish, S.; Pastore, N. Dynamics of Coastal Aquifers: Conceptualization and Steady-State Calibration of Multilayer Aquifer System—Southern Coast of Emilia Romagna. *Water* 2023, 15, 2384. <https://doi.org/10.3390/w15132384>

<https://www.mdpi.com/2073-4441/15/13/2384>

Japan, Osaka

A power point presentation:

https://www.jica.go.jp/Resource/english/our_work/thematic_issues/water/c8h0vm0000fgpuk7-att/materials_01_11.pptx

PR China,

Chuanjin Liu et al.,

Present-Day Three-Dimensional Deformation across the Ordos Block, China, Derived from InSAR, GPS, and Leveling Observations

DOI: 10.3390/rs15112890

https://www.researchgate.net/publication/371277779_Present-Day_Three-Dimensional_Deformation_across_the_Ordos_Block_China_Derived_from_InSAR_GPS_and_Leveling_Observations

PR China, Beijing

Xueqi Zhu et al.,

Study on Land Subsidence Simulation Based on a Back-Propagation Neural Network Combined with the Sparrow Search Algorithm

DOI: 10.3390/rs15122978

https://www.researchgate.net/publication/371441037_Study_on_Land_Subsidence_Simulation_Based_on_a_Back-Propagation_Neural_Network_Combined_with_the_Sparrow_Search_Algorithm

PR China, Lianjiang Plain

Yangfang He et al.,

Understanding the Spatiotemporal Characteristics of Land Subsidence and Rebound in the Lianjiang Plain Using Time-Series InSAR with Dual-Track Sentinel-1 Data

<https://www.mdpi.com/2072-4292/15/13/3236>

PR China, Nanchang

Hua Gao et al.,

Surface Subsidence of Nanchang, China 2015–2021 Retrieved via Multi-Temporal InSAR Based on Long- and Short-Time Baseline Net

<https://www.mdpi.com/2072-4292/15/13/3253>

PR China, Nanjing

Zhang, P.; Qian, X.; Guo, S.; Wang, B.; Xia, J.; Zheng, X. A New Method for Continuous Track Monitoring in Regions of Differential Land Subsidence Rate Using the Integration of PS-InSAR and SBAS-InSAR. *Remote Sens.* 2023, 15, 3298. <https://doi.org/10.3390/rs15133298>

<https://www.mdpi.com/2072-4292/15/13/3298>

Saudi Arabia, Najran

Esubalew Adem et al.,

SBAS-InSAR/GNSS Surface Deformation Assessment in Arid Environments of Najran, Saudi Arabia

<https://link.springer.com/article/10.1007/s41748-023-00346-0>

USA, Arizona

Carl Job et al.,

A Spatiotemporal Characterization of Water Resource Conditions and Demands as Influenced by the Hydrogeologic Framework of the Willcox Groundwater Basin, Southeastern Arizona, USA

<https://www.mdpi.com/2076-3263/13/6/176>

Vietnam, An Giang Province

Bayrak, M.M., Van Hieu, T., Tran, T.A. et al.

Climate change adaptation responses and human mobility in the Mekong Delta: local perspectives from rural households in An Giang Province, Vietnam. *Humanit Soc Sci Commun* 10, 344 (2023).

<https://doi.org/10.1057/s41599-023-01817-5>

MINING

Bo, H., Guo, G., Li, H. et al. Study on surface subsidence prediction method of shallow coal seam backfill-strip mining under the hard roof. Bull Eng Geol Environ 82, 281 (2023).

<https://doi.org/10.1007/s10064-023-03284-3>

Yinfei Cai et al.,

A review of monitoring, calculation, and simulation methods for ground subsidence induced by coal mining

June 2023 International Journal of Coal Science & Technology 10(1)

https://www.researchgate.net/publication/371590976_A_review_of_monitoring_calculation_and_simulation_methods_for_ground_subsidence_induced_by_coal_mining

Jiaxin Mi et al.,

Long-Term Impact of Ground Deformation on Vegetation in an Underground Mining Area: Its Mechanism and Suggestions for Revegetation

<https://www.mdpi.com/2073-445X/12/6/1231>

Lu Bai et al.,

Monitoring and Analysis of the Driving Forces of Changes in the Ecological Environment of a Mining Area of Western China from 1986 to 2022

<https://www.mdpi.com/2227-9717/11/6/1721>

PEAT

Indonesia, Jambi Province

Aswandi

Uncertainty in the Management of Tropical Peatlands for Oil Palm Plantations due to Drainage Practices

Italy, Pontine Marshes

Sevink, J., de Haas, T. C. A., Alessandri, L., Bakels, C. C., & Di Mario, F. (2023). The Pontine Marshes: An

integrated study of the origin, history, and future of a famous coastal wetland in Central Italy. The

Holocene. <https://doi.org/10.1177/09596836231176495>

https://pure.rug.nl/ws/portalfiles/portal/678058962/sevink_et_al_2023_the_pontine_marshes_an_integrated_study_of_the_origin_history_and_future_of_a_famous_coastal_wetland.pdf

FROM THE PRESS

Nigeria, Lagos

Lagos Listed Among 99 Sinking Coastal Cities

<https://leadership.ng/lagos-listed-among-99-sinking-coastal-cities/>

National Geographic:

These cities are sinking into the ground

<https://www.nationalgeographic.com/environment/article/these-cities-are-sinking-into-the-ground>

United States, California

The more stakeholders are included in policy planning, the better those policies protect them

Researchers pored over 108 groundwater management plans in California, finding those that incorporated stakeholder input offered greater protection from groundwater depletion

<https://www.eurekaalert.org/news-releases/993874>

SPECIAL ISSUES

Special Issue, Editorial

Massimo Fabris et al.,

Editorial for Special Issue “Ground and Structural

Deformations Monitoring Systems Integrating Remote Sensing
and Ground-Based Data”

https://mdpi-res.com/d_attachment/remotesensing/remotesensing-15-03013/article_deploy/remotesensing-15-03013.pdf?version=1686282036

Special Issue "Machine Learning and Remote Sensing for Geohazards"

Keywords

- Modelling
- Monitoring
- Landslides
- Subsidence
- Susceptibility
- risk analysis
- GIS
- machine learning

A special issue of Remote Sensing (ISSN 2072-4292). This special issue belongs to the section "Environmental Remote Sensing".

Deadline for manuscript submissions: 15 August 2023

https://www.mdpi.com/journal/remotesensing/special_issues/Machine_Learning_Remote_Sensing_Geohazards