United Nations Educational, Scientific and Cultural Organization

Intergovernmental Hydrological Programme

UNESCO Land Subsidence International Initiative

Newsletter of the Unesco Land Subsidence International Initiative

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Logo

From the Unesco Organization we were informed that we still use an old logo: especially the text of the IHP should be: Inter**governmental** Hydrological Programme, instead of **International.**

From now on, we will use the right logo on these Newsletters, letters and other documents, but it shall also be changed in the LASII website, TISOLS website and on our flyers, before they will be printed. Please inform if you detect the old logo in order to be uniform.

Agenda

Terrafirma on Subsidence, September 15, 2020

Terrafirma Launch New Education Series on UK Ground Hazards.

As one of the topics, attention is paid to:

Soil-related Subsidence

A 30 minutes presentation by Dr. Tim Farewell; registration required.

https://www.mortgagefinancegazette.com/features/join-experts-terrafirma-launch-new-education-series-uk-ground-hazards-21-08-2020/

Bangkok, September 21 – September 22, 2020

Mekong Delta Development Workshop: Accelerating Sustainable Development through Community-Level Innovation

http://seajunction.org/event/mekong-delta-development-workshop-accelerating-sustainable-development-through-community-level-innovation/

Guilin, Guangxi, China: June 1 – June 3, 2021

The 6th Intl Conference On Geohazards Research And Prevention GRP 2021

The 6th Intl Conference on Geohazards Research and Prevention GRP 2021 Conference Date: June 1-3, 2021 Conference Venue: Guilin, China Website: http:www.confjune.org

conferenceGRP2021 It dedicates to creating a stage for exchanging the latest research results and sharing the advanced research methods in Geohazards Research, Monitoring, Prediction and Warning and relevant topics.

Conference Topics: Avalanche, Cone of Depression, Debris Flows, Earthquake and Seismology, Geothermal Harm, Ground Fissure Hazard, Zonation and Risk Assessment, Neotectonics and Geohazards, Land Desertification, Swampiness, Land Subsidence, Landslides Liquefaction, Monitoring, Prediction and Warning, Rock Burst, Collapse, Fall Risk Reduction of Geohazards, Remedial Measures and Prevention Works, Sea Water Intrusion, Soil Freezing and Thawing Soil Salinization, Torrential Floods, Tsunami Volcanology, Volcanic Hazards, Water Loss and Soil Erosion.

The World Water Atlas

A new website: the World Water Atlas: https://www.worldwateratlas.org/narratives/

Among others, the World Water Atlas contains a topic about Land Subsidence

https://www.worldwateratlas.org/narratives/subsidence

World Water Week, Stockholm

Look here for what happened in Stockholm on August 28th:

https://www.dutchwatersector.com/news/wwweek-at-home-no-sediment-flow-no-river-delta

New Literature

Bangladesh

Groundwater extraction and land subsidence are important drivers for salinization of large river deltas.

Salinization in large river deltas: Drivers, impacts and socio-hydrological feedbacks M.M. Rahmana* , G. Pennyb,c* , M.S Mondald , M.H. Zamane , A. Krystonb , M. Salehind , Q. Nahara , M.S Islame 2 , D. Bolster b,c, J.L. Tank f,c, M.F. Müllerb,c 3 4 a. Initiative for Climate Change and Health, International Centre for Diarrhoeal Disease Research 5 Bangladesh (icddr,b), Bangladesh

https://par.nsf.gov/servlets/purl/10095051

Iran, Tabriz

Karimzadeh, S.; Matsuoka, M. Remote Sensing X-Band SAR Data for Land Subsidence and Pavement Monitoring. *Sensors* **2020**, *20*, 4751.

https://www.mdpi.com/1424-8220/20/17/4751

Arak Plain

In Geopersia: Mohammed Hossein Jahangir et al.,

Modeling of land subsidence due to groundwater overexploitation using elastoplastic Mohr-Coulomb model in Arak plain, Iran

https://geopersia.ut.ac.ir/article_77492_0.html

PR China

Beijing

Guo, L., Gong, H., Li, J., Zhu, L., Xue, A., Liao, L., et al. (2020). Understanding uneven land subsidence in Beijing, China, using a novel combination of geophysical prospecting and InSAR. *Geophysical Research Letters*, 47, e2020GL088676. https://doi.org/10.1029/2020GL088676

Zhou, D.; Milas, A.S.; Yu, J.; Zhu, L.; Chen, B.; Muhetaer, N. Integrating RELAX with PS-InSAR Technique to Improve Identification of Persistent Scatterers for Land Subsidence Monitoring. *Remote Sens.* **2020**, *12*, 2730.

https://www.mdpi.com/2072-4292/12/17/2730

Tianjin

Li, D.; Hou, X.; Song, Y.; Zhang, Y.; Wang, C. Ground Subsidence Analysis in Tianjin (China) Based on Sentinel-1A Data Using MT-InSAR Methods. *Appl. Sci.* **2020**, *10*, 5514.

Taiwan

Following article describes the effects of adaptive measures in the Jiadung Coastal Area in Taiwan.

Chia-Fa Chi, Shiau-Yun Lu & Jeng-Di Lee (2020) Ostensibly Effective Adaptive Measures Could Potentially Be Maladaptations: A Case Study of the Jiadung Coastal Area, Pingtung County, Taiwan, Coastal Management, DOI: 10.1080/08920753.2020.1803575

https://www.tandfonline.com/doi/abs/10.1080/08920753.2020.1803575?journalCode=ucmg20

USA, California

Carlson, G., Shirzaei, M., Ojha, C., & Werth, S. (2020). Subsidence-Derived Volumetric Strain Models for Mapping Extensional Fissures and Constraining Rock Mechanical Properties in the San Joaquin Valley, California. *Journal of Geophysical Research: Solid Earth*, 125, e2020JB019980. https://doi.org/10.1029/2020JB019980

USA, Vitginia, Hampten Roads

To mitigate actual subsidence rates (3.6 mm/yr), treated wastewater is injected:

Buzzanga, B., Bekaert, D. P. S., Hamlington, B. D., & Sangha, S. S. (2020). Towards Sustained Monitoring of Subsidence at the Coast using InSAR and GPS: An Application in Hampton Roads, Virginia. *Geophysical Research Letters*, 47, e2020GL090013. https://doi.org/10.1029/2020GL090013

https://agupubs.onlinelibrary.wiley.com/action/showCitFormats?doi=10.1029%2F2020GL090013

Vietnam, Nam Dinh Coast

In: Continental Shelf Research: Nguyen Hao Quang et al.,

Land subsidence and its effects on coastal erosion in the Nam Dinh Coast (Vietnam)

https://www.sciencedirect.com/science/article/abs/pii/S0278434320301825?via%3Dihub

From the Press

India

Song-Song

SONG-SONG, Aug 9: Under the aegis of the Cane and Bamboo Technology Centre (CBTC), Guwahati, Assam under North Eastern Council, Ministry of DoNER, Government of India, Central Agricultural University (CAU), Imphal, Manipur and ApunbaImagi Machasing (AIMS), Manipur, a one day Awareness Programme on Cane & Bamboo and Its Application was held at Song-Song Village, Manipur's Senapati District bordering Nagaland.
Speaking on the occasion, Prof. M. Premjit Singh, Vice Chancellor, Central Agricultural University (CAU), Lamphelpat, Imphal while attending a guest of honour said that he had agreed to establish a Slopeland Research Institute.

Moreover, yet another Hill University is to be established under initiative of Manipur University, Prof W. Chandbabu Singh, Registrar, Manipur University; who was also on the dais said.

The announcements were made when two Members of Parliament of Manipur, Dr. Lorho S. Pfoze and Dr. R.K. Ranjan visited the land subsidence sites at Song Song village and urged the concerned

authorities to look into the matter at the earliest. The villagers of the area are taking refugees to the neighbouring areas due to its vulnerable situation. As the preliminary report, the land subsidence might be caused due to the aquifer-system hydro compaction. It occurs when large amounts of groundwater have been withdrawn and may lead to more surface water-groundwater interaction and excess groundwater withdrawal which in turn may pollute the aquifer, causing land subsidence. However, it needs to be studied further. During the investigation, there are geologist and seismologist experts from Manipur University. It will find out the exact cause of subsidence soon.

Dr. R.K. Ranjan and Dr. Lorho S. Pfoze were attended as the Chief Guest and President respectively of the programme organised on Saturday.

India

From: Science The Wire

The Surprisingly Difficult Task of Measuring Sea-Level Rise Around India

https://science.thewire.in/the-sciences/indian-coast-sea-level-rise-tide-gauge-satellite-altimetry-complexity/

Indonesia, West-Java

At least 6,000 hectares of fish farms and residential areas in Beting village, Bekasi regency, West Java have been lost since 2008 due to abrasion; and a woman and a child stand on the porch of their inundated home, drowned by the frequent tidal floods which hit Beting village. PHOTO: CNA

Time is running out for Indonesian fishing village as it battles coastal erosion

https://borneobulletin.com.bn/2020/08/time-is-running-out-for-indonesian-fishing-village-as-it-battles-coastal-erosion/

Iran, Tehran

Tehran suffers subsidence up to 0.22 m/yr Tehran times reports:

https://www.tehrantimes.com/news/427877/Land-subsidence-a-dire-threat-to-Tehran

Japan

Video explaining land subsidence (in Japanese, undertitled in English)

https://www.youtube.com/watch?v=dzdP3v5eENM

Myanmar, Yangon City

Yay Chann argues that water supply related problems urgently need to be addressed in Yangon.

https://teacircleoxford.com/2020/08/18/water-supply-problems-are-overlooked-in-yangon-city/

The Netherlands, Amsterdam

CNN Reports: Amsterdam has been collapsing for years. Now it's paying the price.

https://edition.cnn.com/travel/article/amsterdam-collapsing/index.html

Comments and contributions can be sent to: john.lambert@deltares.nl