SIEUSOIL project press release

Land Degradation and Environmental Change

European Project SIEUSOIL enables intelligent Land Use Management in EU and China

Land degradation is considered as a major global environmental issue of this century. It is happening at an alarming pace, threatening food security and environmental quality. The effects of land and effectively soil degradation involve a complex interplay of environmental and socioeconomic–political factors acting at different spatial and temporal scales.
Land resources (i.e. soil, water, and biodiversity) are largely determined by the management practices, governance systems, and environmental changes. Unsustainable farming practices contribute not only to soil degradation at a local level, but also to increased carbon emissions, reduced biodiversity, and diminished rainfall on regional and global scales.

! The problem in Europe

Land degradation in Europe has increasingly been recognised as a serious environmental problem. Research has concluded that six major threats place soil fertility at risk, namely, soil erosion, loss of organic matter, soil biodiversity, soil compaction, soil salinity and soil pollution. These threats have adverse effects on soil functions and ecosystem services.

! The problem in China

China faces severe soil degradation, with over 40% of its land area being affected by erosion. With quick urbanization across the whole country, the total of arable land decreased. Intensive agriculture and high input of fertilizer and pesticides has resulted in land quality declining. Soil is widely degraded and this includes soil erosion, land impoverishment, soil salinisation and soil acidification.

The **SIEUSOIL** project which is supported by the EU Research and Innovation programme HORIZON 2020, aims to develop sustainable and holistic soil management practices based on a harmonised land information system suitable for diverse climate and operation conditions along different EU and China locations. A research platform consisting of advanced crop and soil sensing tools, modelling and data fusion, digital soil mapping and farm management information systems will be developed to maximise land productivity and socio-economic benefits, while minimising the environmental impacts.

The **Aristotle University of Thessaloniki** leads the consortium of 23 partners, 16 based in Europe and 7 in China, to design, implement and test the shared China-EU Web Observatory platform that will provide Open Linked Data to monitor status and threats of soil and assist in decision making for sustainable support of agroecosystem functions, in view of the projected climate change. The second project meeting took place on the 23rd of September in Thessaloniki, aiming to address all collaboration mechanisms between EU-China teams.

The SIEUSOIL project consortium consists of Aristotle University of Thessaloniki, Lesprojekt Sluzby SRO, UNIVERSITEIT GENT, PLAN4ALL ZS, UNIVERSITAET FUER BODENKULTUR WIEN, AGRISAT IBERIA SL, BALTIC OPEN SOLUTIONS CENTER, VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V., Masarykova univerzita, DOISECO UNIPESSOAL LDA, AGRO APPS I.K.E., INSTITUTE OF SOIL SCIENCE CHINESE ACADEMY OF SCIENCES, Institute of Environment and Sustainable Development in Agriculture, Chinese Academy of Agricultural Sciences, Zhejiang University, INSTITUTE OF REMOTE SENSING AND DIGITAL EARTH - CHINESE ACADEMY OF SCIENCE, CHINA UNIVERSITY OF GEOSCIENCES BEIJING), Tarim University, ETAM SA, FUJIAN AGRICULTURE AND FORESTRY UNIVERSITY, INSTYTUT CHEMII BIOORGANICZNEJ POLSKIEJ AKADEMII NAUK, PANNON EGYETEM, QUANTIS and G K KEFALAS GEORGIKI G.P.

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