WASWAC

HOT NEWS

10, 2025

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ISSUE 10 2025

WASWAC

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Dr. Roberto A. Peiretti, the Vice Chairman of WASWAC Advisory Committee was Nominated as a Member of the ANAV

During the current year 2025, Dr. Roberto A. Peiretti, vice-chairman of WASWAC advisory committee, former deputy president, was nominated and appointed as a Member of the "Argentina National Academy of Agronomy and Veterinary".

His candidacy and subsequent incorporation as a member of such a prestigious institution represent a recognition of his outstanding career centered on the development and steady efforts at developing and promoting not only locally, but internationally, of the "No Till System" as a " new paradigmatic manner" to understand and carry out the agricultural process. This conceptually and operationally new way to unfold the agricultural production process, is centered on "the simultaneous achievement of different goals," namely, a higher level of productivity obtained with sustainably and even with improvement of the different components of the production process, starting with the main one: THE SOIL.

Over the last 30 years, he has been invited to participate in different academic and extension activities in forty countries and in more than eighty opportunities. On those occasions, he was delivering speeches, bringing his experience and knowledge related to the "No Till System," as it is mostly named in South America, also known as Conservation Agriculture around the world.

The Formal Ceremony took place during September the 5 th., in the main auditorium of the Faculty of Agronomy of Córdoba National University, where he studied and graduated as an Agronomy Engineer, and also where seven years ago he was distinguished with the "Honorary Doctorate Degree" for his activities and achievements during his professional career.

The 23rd World Congress of Soil Science Registration Now Open

Since its inception in 1927, the World Congress of Soil Science has been convened every four years, serving as a pivotal scientific forum in the realm of soil sciences. The WCSS2026 theme, 'Soil and the Shared Future for Humanity' focuses on the importance of soil for our future, with a variety of arrangements including poster exhibition, young researcher forum and soil judging contest. Tours will also be organized for participants to visit typical soils in combination with unique landscapes and cultural diversification as China is a vast country with rich soil resources.

Important Dates

* Online registration opens: July 7, 2025
* Abstract submission opens: July 7, 2025
* Abstract submission deadline: November 7, 2025
* Abstract review: November 2025—February 2026
* Abstract results notification: February 7, 2026
* Early bird registration deadline: March 7, 2026
* Regular registration deadline: May 7, 2026
* Cancellation and refund deadline: May 7, 2026

Official Website

https://www.23wcss.org.cn

https://www.iuss.org

Fill out and submit the International Volunteer Application Form for the 23rd WCSS online. https://jsj.top/f/aSbeuy

First Investigation Results on Black Soil in Northeast China Published

China unveiled its first investigation results on black soil in Northeast China on Wednesday, indicating an overall stability of the soil condition and offering crucial support for the protection, planning and sustainable utilization of black soil resources.

The three-year investigation, conducted by the China Geological Survey under the Ministry of Natural Resources, revealed that over 85 percent of the black soil area is relatively stable or above across the examined 83 key regions in Heilongjiang, Jilin, Liaoning provinces, and the Inner Mongolia autonomous region. Encompassing 411,700 square kilometers, the surveyed region represents around 40 percent of the nation's black soil area.

Covering an expanse of 162,500 sq km, the stable black soil area accounts for 39.48 percent of the surveyed region. Characterized by a thick layer of black soil, high organic matter content, excellent black soil properties, and the potential for sustainable cultivation, these areas are mainly located in the central and northern regions of the Songnen Plain, northern Sanjiang Plain, and southwestern Liaohe Plain.

An additional 192,900 sq km area, constituting 46.86 percent of the investigated regions, is categorized as relatively stable black soil area. This area possesses moderate black soil layer thickness, relatively high organic matter content, good black soil properties, and is deemed suitable for long-term utilization with proper protection measures in place.

The remaining area may be afflicted by black soil degradation problems such as soil erosion, desertification and salinization. The result underscored the difficulty in restoring these areas once they have been damaged.

In addition, the investigation mapped out a reserved farmland area spanning 13,600 sq km, offering precise location and fundamental statistics to guide policy decisions aimed at expanding black soil cultivation.

News Source

https://www.chinadaily.com.cn/a/202506/26/WS685d311ba310a04af22c8b8a.html

Don't "Fix" Soil Erosion With Tillage

Heavy rains led to significant soil erosion and crop damage. As you spot eyesores this harvest, resist the urge to "smooth things over" with tillage. Consider alternative practices.

Excess rainfall may have caused issues in some of your fields this year, depending on soil type and cropping system. Here are some potential problems:

Drowned-out spots. These are caused by accumulation of raindrops unable to infiltrate where they landed. And if it occurs most years, why are those areas planted each year?

Erosion on naked soils. Bare soils with little to no residue from the previous crop are especially susceptible to extreme weather events. It does not take much for raindrops to cause erosion.

Gradual slopes. Tillage was often used this past fall or spring to "erase" previous damage. On fields that were no-tilled, ephemeral gullies may have occurred. Because you don't do tillage, they really stand out. I've even heard people say that no-till causes erosion. But tillage is simply no longer used to "fix" these spots.

You might attempt to erase these eyesores from the landscape with tillage. However, the loss of valuable topsoil already has occurred. That topsoil, if it is still topsoil, doesn't do you much good in the road ditch or downstream. If left alone, deep classic gullies can eventually form that are not easily fixed.

If minimal tillage and vegetative control measures are not working, then the next alternative is a structural practice such as water and sediment control basins, grassed waterways, terraces or other practices. Some farmers say adopting a soil health system is too expensive. Either way, it is going to cost you.

News Source

https://www.farmprogress.com/conservation-and-sustainability/extreme-rainfall-events-highlight-erosion-challenges-for-indiana-farmers

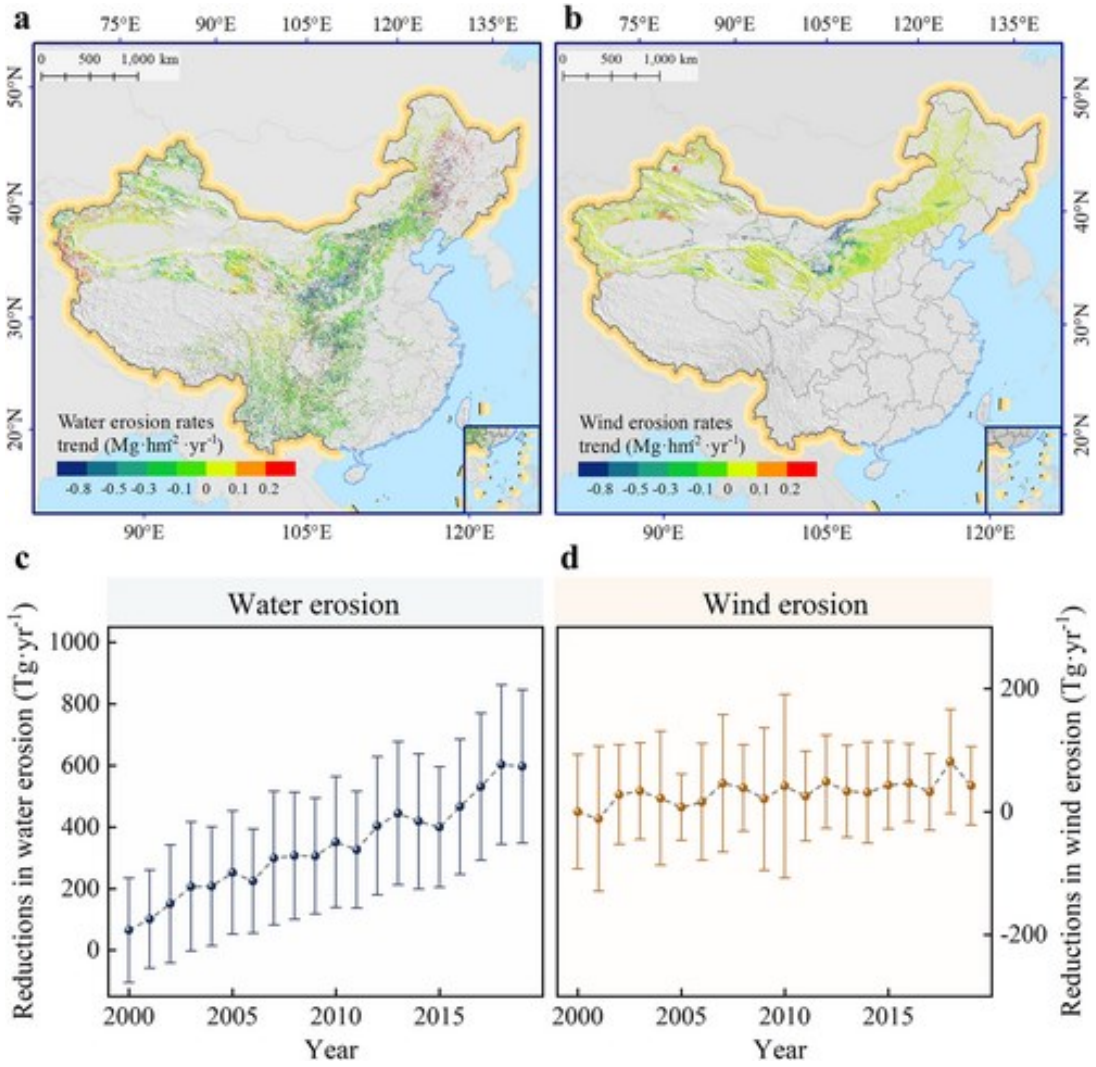
Soil Conservation Benefits of Ecological Programs Promote Sustainable Restoration

Ecological restoration efforts in less developed regions confront a sustainability challenge due to the undervaluation of their substantive benefits. Soil conservation, as a crucial ecosystem service supporting both ecological and socioeconomic systems in less developed regions, is often overlooked in estimating the benefits of restoration efforts. We introduce a framework that integrates the multi-model approach and scenario analysis on cloud computing platforms to capture the significance of soil conservation benefits by assessing the world's largest restoration programs from China. Our analysis reveals that these restoration programs, with a total investment of $133 billion, have prevented 7.29 ± 1.01 Pg of soil erosion, valued at $243.0 ± 25.9 billion from 2000 to 2019. Notably, two critical programs that synergize forest conservation, cropland conversion, and human well-being in China's less developed regions account for approximately 85% of the soil conservation benefits. Our findings underscore that soil conservation benefits significantly enhance the substantive benefits and prioritization of restoration efforts in less developed regions, reinforcing the potential for global restoration efforts to contribute to a sustainable future.

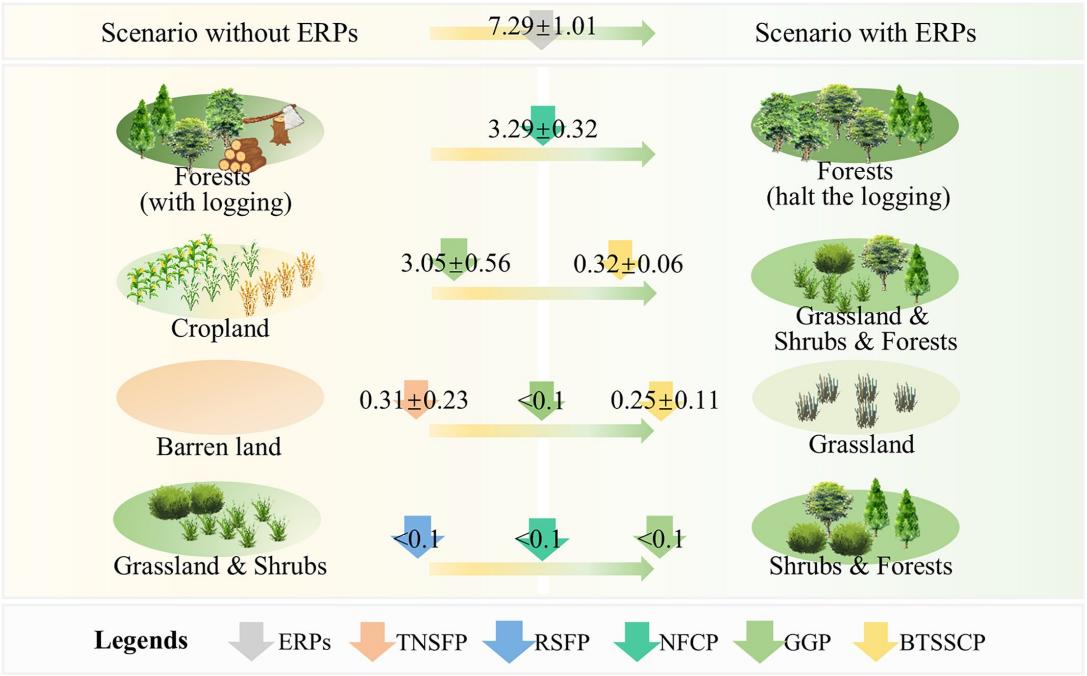
In this study, the framework for quantifying and valuing the explicit soil conservation benefits of ERPs is supported by the GEE cloud computing platform. The procedures of the method are depicted. The detailed data descriptions and processing can be found in Supplementary Information 1 in Supplementary Information S1. First, we detect the conversion of ecosystem types in specific spatio-temporal ranges to identify the restoration and conservation areas in different ERPs. Second, we use multi-source data sets to model annual soil erosion and estimate its ecological and economic costs for 20 years. Third, we compare the differences in soil erosion and associated costs between the actual scenario with ERPs and the baseline scenario without ERPs, quantifying the biophysical quantities and monetary values of soil conservation caused by ERPs.

Our multi-model approach provides an analysis of the water and wind erosion dynamics from 2000 to 2019 across 42.4 million hm2 of restoration areas by calculation on 30 × 30 m

grid cells. The changing trend of water erosion rates in restoration areas was −0.35 ± 0.05 Mg·hm−2 yr−1 ($p < 0.001$), resulting in a changing trend of water erosion quantities of −14.6 ± 1.3 Tg·yr−1. Wind erosion rates in restoration areas changed at −0.34 ± 0.05 Mg·hm−2 yr−1, resulting in a decrease of 8.8 ± 1.3 Tg·yr−1 in wind erosion quantities. We further constructed a baseline scenario without ERPs and compared it with the actual scenario to quantify the soil conservation attributed to ERPs, accounting for 42.4 million



Soil erosion dynamics from 2000 to 2019. Spatial distributions of the trends in water erosion rates (a) and wind erosion rates (b) in restoration areas. Contributions of ERPs to reductions in water erosion (c) and wind erosion (d) in restoration and conservation areas.



TNSFP, Three North Shelterbelt Forest Program; RSFP, Rivers Shelterbelt Forest Program; NFCP, Natural Forest Conservation Program; GGP, Grain for Green Program; BTSSCP, Beijing-Tianjin Sand Source Control Program.

hm2 of restoration areas and 4.8 million hm2 of forest conservation areas. Overall, ERPs considerably reduced water erosion in the past two decades. In 2019, the annual reductions in water erosion driven by ERPs (0.60 ± 0.25 Pg·yr−1) accounted for approximately 70% of the global reductions in water erosion induced by land use change (Borrelli et al., 2017), and contributed to a ~23% decrease in the annual water erosion in China. Given the increasing trend of soil conservation, ERPs are expected to contribute at least 13% of potential global reductions in water erosion under the scenario limiting global temperature increases to a maximum of 2°C by 2100 (Borrelli et al., 2020). Conversely, changes in wind erosion due to ERPs were substantially less than those in water erosion. The annual reductions in wind erosion caused by ERPs were no more than 85.7 ± 84.4 Tg·yr−1, accounting for a relatively small portion of global and national wind erosion.

Article Source

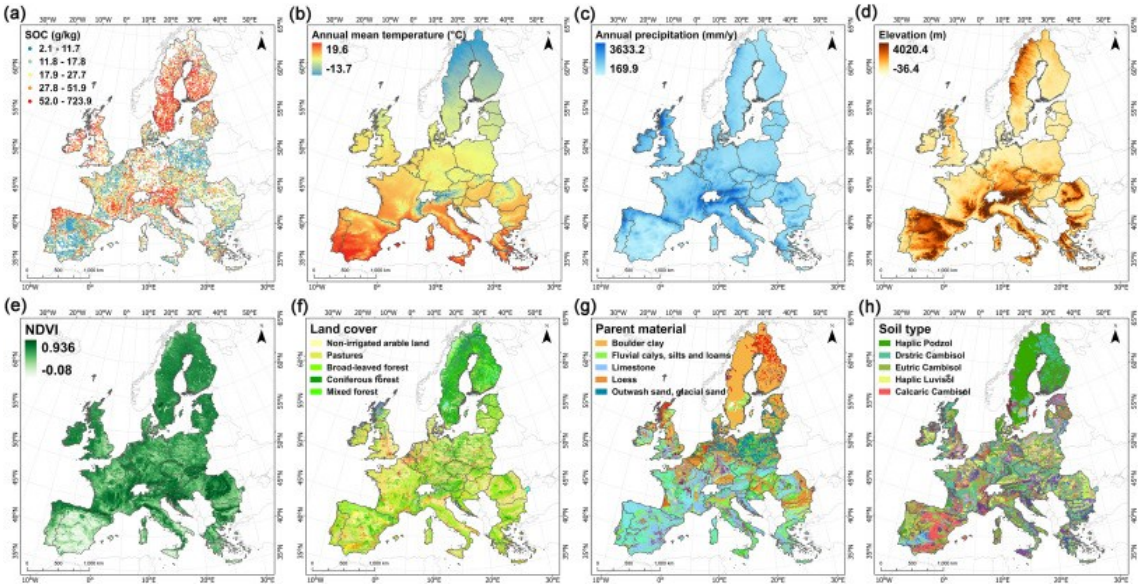
https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2024EF005287

Warming Could Cause Significant Soil Organic Carbon Loss Around the Southern Baltic Sea

Soil organic carbon (SOC) is linked to greenhouse gas emissions and climate change. Loss of SOC is one of the main threats to European and global soils. The impact of climate change, especially warming, on SOC varies by regions but remains poorly understood. To address this, we used Random Forest (RF) to model SOC in topsoil of Europe based on LUCAS data and applied SHapley Additive exPlanations (SHAP) values to interpret spatial patterns. Key findings show temperature is the predominant factor influencing SOC in northern Europe (north of 55°N). Under the RCP4.5 scenario, projected warming over the next 50 years could lead to significant SOC loss around the southern Baltic Sea (55°N-60°N), while regions north of 65°N could experience SOC gain. Regions between 60°N-65°N would have mixed SOC changes or remain stable. The southern Baltic Sea region, with annual mean temperature of 2.5–7.5 °C, is identified as highly sensitive to SOC loss due to warming. These findings have improved our understanding of the spatially varying SOC-temperature relationships and highlighted the need to consider regional SOC dynamics in future soil management and climate-related policies. In addition, agro-environmental actions at the regional scale should be adopted to enhance SOC conservation.

Article Source

https://www.sciencedirect.com/science/article/pii/S0301479725024648



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