



HOT NEWS

06, 2025



HOT NEWS

ISSUE 06



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Editor: Pengfei DU

Assistant Editor: Songdi YANG

Abstracts Submission Final Extension to July 15, 2025 for the 6th WASWAC World Conference



About the Conference

1. Invited Reports

Experts and scholars in soil and water conservation and related fields will be invited to give invited presentations.

2. Academic Sessions

The conference will arrange a number of academic reports in the form of oral presentations and poster presentations to provide a fully exchange platform for participants.

3. Field Trip

During the conference, a field trip will be arranged to visit the soil erosion control areas in Morocco.

Call for Abstract

The deadline for abstract and the registration form submission is extended for the final time to July 15, 2025. Please submit to:

RISE-SWC@inra.ma and make a copy to waswac@vip.163.com in MS word format. Author(s) will be intimated regarding the acceptance of the abstracts.

Invitation letter will be released after registration form submission. So for participants who need invitation letter to apply for visa, please submit your registration ASAP.

Conference Dates

- * Registration: 14 September
- * Academic Conference: 15-17 September
- * Training: 18-19 September

Participants may choose to attend only the Conference, only the Training, or both the Conference and the Training.

Venue

Institut National de la Recherche Agronomique (INRA), Avenue de la Victoire BP 415, 10090 Rabat, Morocco.

Info Updates

<https://book.aatif2025.com/#>

<https://rise-swc.com/>

www.waswac.org.cn

www.inra.org.ma

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Registration Form Available at:

[https://view.officeapps.live.com/op/](https://view.officeapps.live.com/op/view.aspx?src=http%3A%2F%2Fwww.waswac.org.cn%2Fwaswac%2Fuploadfile%2F2024%2F10%2F30%2F20241030154338658.docx&wdOrigin=BRO)

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Registration Information Collection Form

For pre-trip communication, please fill out the registration information form. We will establish a WeChat group to share conference updates, flight details, and address any other concerns from participants.

[https://forms.cloud.microsoft/Pages/](https://forms.cloud.microsoft/Pages/ResponsePage.aspx?id=DQSIkWdsW0yxEjajBLZtrQAAAAAAA)

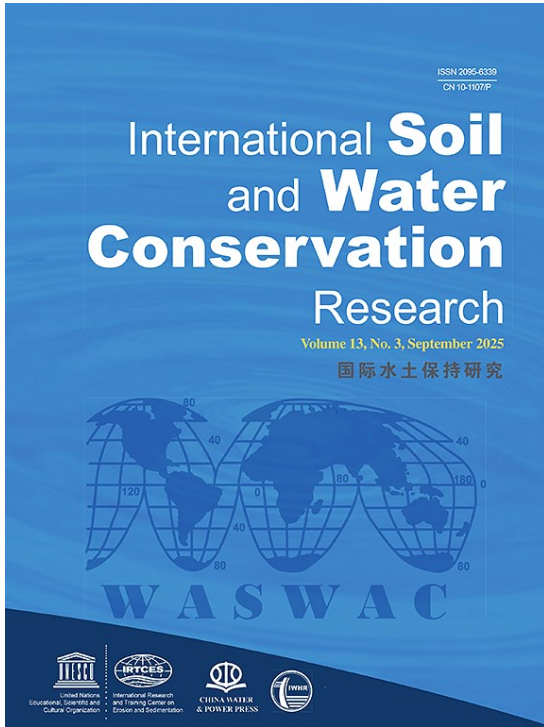
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The 2024 Impact Factor for the International Soil and Water Conservation Research (ISWCR) is 7.3



Clarivate officially released the 2024 Journal Citation Reports™ (JCR) on June 18, 2025.

According to the newest JCR, **the official journal of WASWAC, the International Soil and Water Conservation Research (ISWCR) 2024 Impact Factor is 7.3**, which indicates ISWCR is a **Q1 journal** in all three categories of Water Resources, Soil Science, and Environmental Sciences. If you are interested in other indexes in JCR, please check the JCR of ISWCR on Web of Science.

ISWCR was officially indexed by Science Cita-

tion Index Expanded (SCIE) in July, 2019. The Journal is classified into three subject areas of Water Resources, Soil Science, and Environmental Sciences. ISWCR received its first official Impact Factor (IF for 2019) of 3.770 in June 2020, the IF for 2020, 2021, 2022 and 2023 is 6.027, 7.481, 6.4 and 7.3, respectively. The impact factor of 7.1 this year is the sixth official IF for ISWCR.

ISWCR is ranked 8th among 131 journals in the Water Resources category indexed by SCI. In the Soil Science category, it ranks 3rd out of 48 journals, unchanged from last year. In the Environmental Sciences category, it is ranked 46th out of 374 journals. ISWCR is classified as a Q1 (top quartile) journal in all three fields.

The specific rankings are as follows:

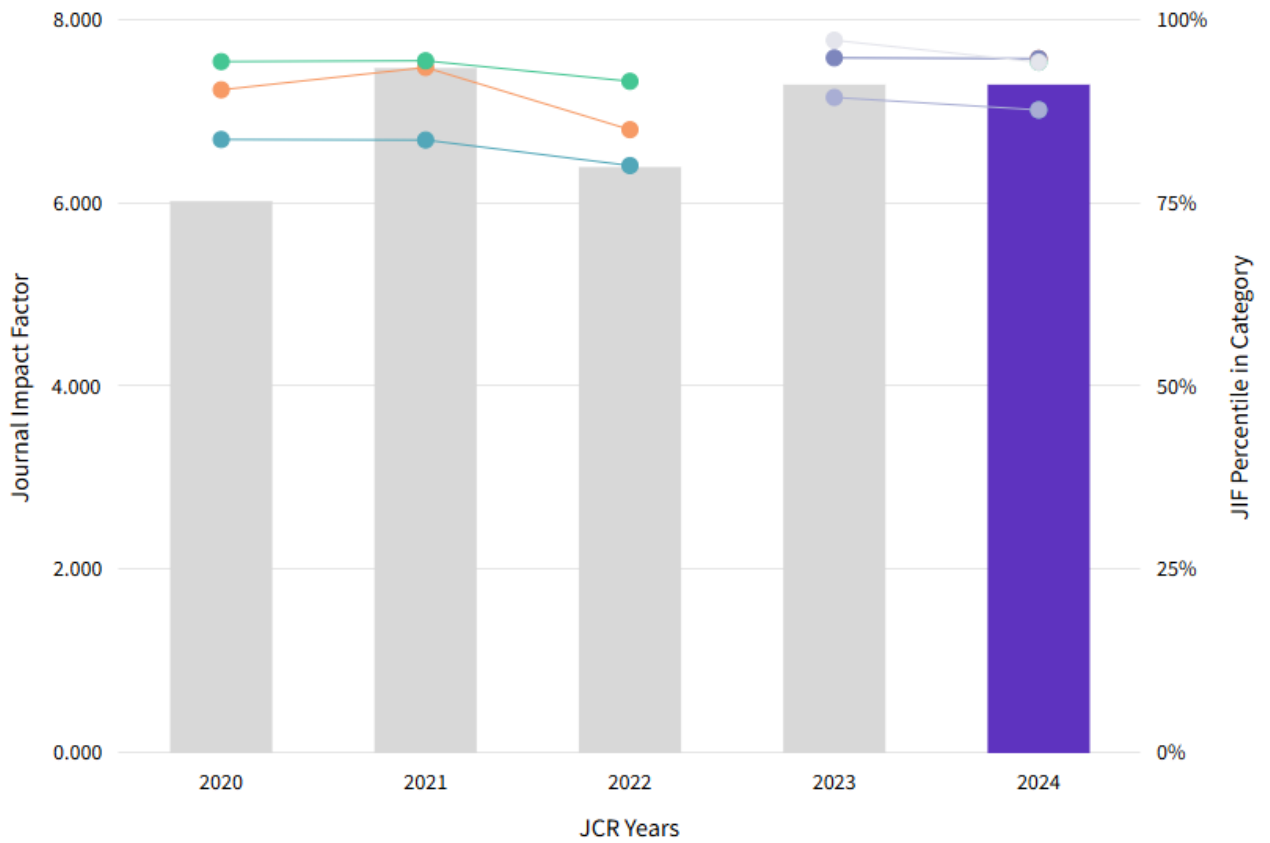
- **Water Resources 8/131 Q1**
- **Soil Science 3/48 Q1**
- **Environmental Sciences 46/374 Q1**

News Source

www.webofscience.com

Journal Impact Factor Trend 2024

[Export](#)



- 2022 and earlier
- Journal Impact Factor
 - ENVIRONMENTAL SCIENCES - SCIE
 - SOIL SCIENCE - SCIE
 - WATER RESOURCES - SCIE
- 2023 and beyond
- SOIL SCIENCE
 - ENVIRONMENTAL SCIENCES
 - WATER RESOURCES

The 2024 Impact Factor for the International Journal of Sediment Research (IJSR) is 3.7



Clarivate officially released the 2024 Journal Citation Reports™ (JCR) on June 18, 2025. According to the latest JCR report, **the impact factor of International Journal of Sediment Research (IJSR) is 3.7.**

IJSR is ranked 34 out of 131 SCI journals in the category of Water Resources; and ranked 148 out of 374 journals in the category of Environmental Sciences.

CATEGORY

ENVIRONMENTAL SCIENCES

148/374

JCR YEAR

2024

JIF RANK

148/374

JIF QUARTILE

Q2

JIF PERCENTILE

60.6



WATER RESOURCES

34/131

JCR YEAR

2024

JIF RANK

34/131

JIF QUARTILE

Q2

JIF PERCENTILE

74.4



2024 JOURNAL IMPACT FACTOR

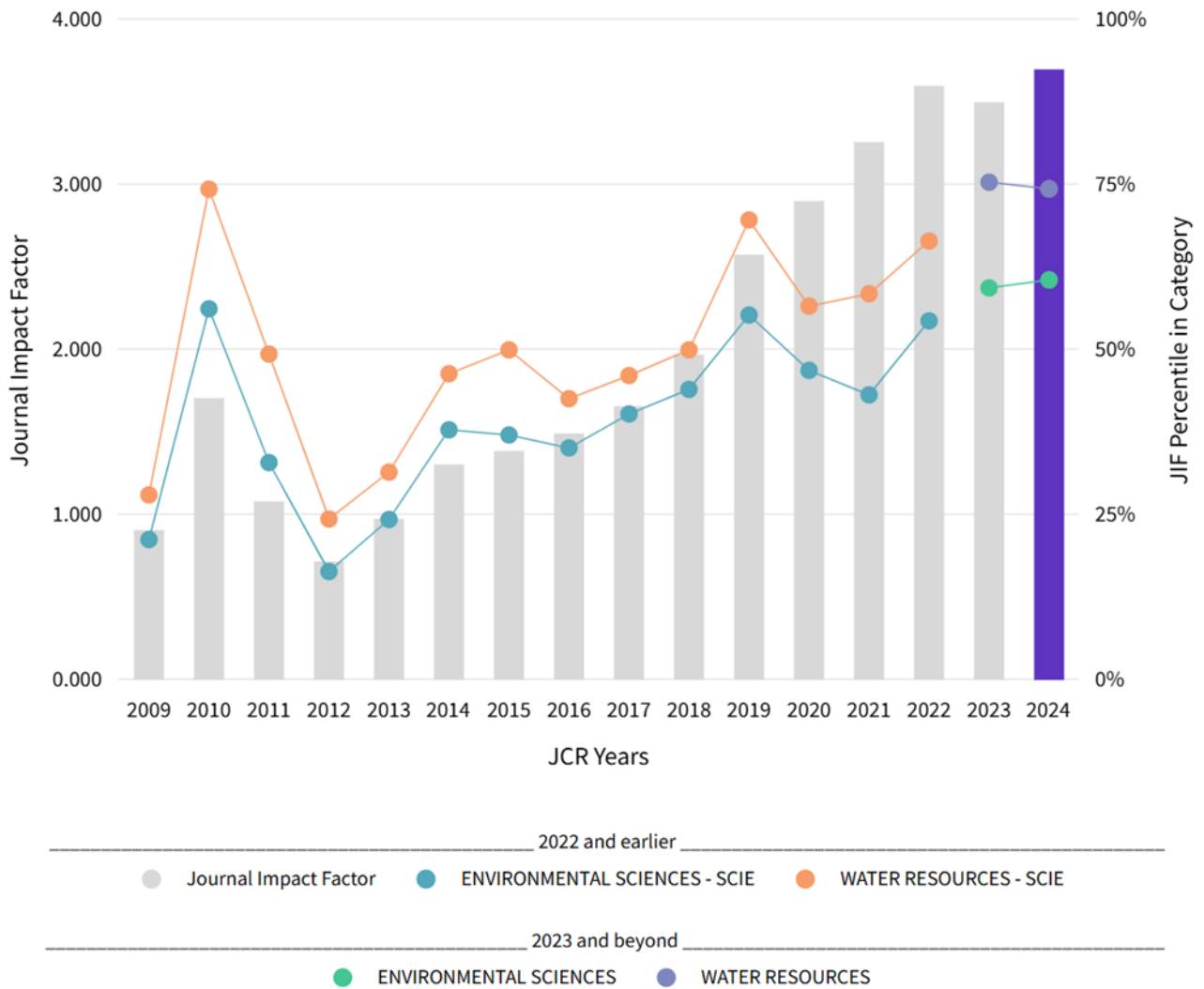
3.7

[View calculation](#)

JOURNAL IMPACT FACTOR WITHOUT SELF CITATIONS

3.6

[View calculation](#)



M²ESH: Monthly Online Seminars on Soil Erosion Research Open to All Researchers



M²ESH is an international platform, created by University of Augsburg, to connect soil erosion researchers and tackle pressing issues in erosion science. The seminars are organised monthly online, freely accessible to anyone interested in soil erosion research. Seminars take place in a Zoom meeting with 30-45 min talks followed by 15-20 min discussion. Speakers are chosen by the M²ESH organisation team, but all researchers, independent of their academic degree and career stage, are welcome to request a talk or propose potential speakers.

◇ **June 26 15:00 CET: Prof. John Quinton (Lancaster University)**

Soil and microplastic movement in real time using fluorescent tagging of soil and microplastic particles

◇ **July 24 15:00 CET: Prof. Anette Eltner (Technical University Dresden)**

From pixels to processes: time-lapse SfM photogrammetry for next-generation soil erosion model evaluation

Anyone can join by signing up to the mailing list in the link below.

<https://www.uni-augsburg.de/en/fakultaet/fai/geo/prof/georwa/mesh/>

50th anniversary of UNESCO Intergovernmental Hydrological Programme



UNESCO Intergovernmental Hydrological Programme held its 50th anniversary from 10-13 June 2025, with panel discussions and performances at UNESCO HQ in Paris.

Water science and management are key pillars of UNESCO's mandate for sustainable development, covering vital aspects of human well-being and environmental protection. UNESCO's broad approach spans areas such as groundwater assessment and drought monitoring, supporting improved water resource management at local and transboundary levels. UNESCO Intergovernmental Hydrological Programme (IHP) is the main vehicle for addressing today's water challenges, drawing on a wide network of experts and specialized centres.

As the United Nations' sole intergovernmental programme dedicated to water research and management, IHP facilitates international cooperation on water-related challenges. Following its establishment in 1975, subsequent to the International Hydrological Decade, the programme has undergone significant evolution, transitioning from a focused hydrological science initiative to a comprehensive, integrated, and transdisciplinary water sciences programme. The programme's operational framework encompasses 29 water-related Centres, 93 UNESCO water-related Chairs, and 170 National Committees and 17 Flagship Initiatives, facilitating effective knowledge transfer between scientific research and practical implementation.

Audrey Azoulay, Director-General of UNESCO, and others attended the high-level event and delivered opening remarks. Leaders from relevant UN agencies, more than 10 national ministries, presidents of international organizations, members of the UNESCO water family, and members of the global water science community attended the meeting. Mr.

Liu Zhiyu, Director General of the Department of Hydrology of the Ministry of Water Resources, Prof. Peng Jing, Director of the International Research and Training Center on Erosion and Sedimentation, President of the China Institute of Water Resources and Hydropower Research attended the meeting.

In the opening session, Ms. Audrey Azoulay, Director General of UNESCO, and Mr. Sirojiddin Muhridin, Minister of Foreign Affairs of Tajikistan, delivered opening remarks, emphasizing the common water challenges facing the globe, stressing the important role of UNESCO IHP as a platform for solving water issues and advancing the water-related goals of the United Nations Sustainable Development Agenda, and discussing future water development strategies and cooperation. The Ministerial Roundtable was held on the theme of Water.

The theme of the Ministerial Round Table was “Water Science: For Life, Prosperity and Peace”. Ministerial guests and delegates made presentations on the important role of UNESCO IHP in the field of water and the relevant water strategies in their countries.

The conference presented the UNESCO IHP Long-Term Outstanding Contribution Award, and the International Research and Training Center on Erosion and Sedimentation, as the first UNESCO category 2 center in the world, received the award.

News Source

<https://www.unesco.org/en/articles/50th-anniversary-unesco-intergovernmental-hydrological-programme>

Hidden Carbon Giants: Satellite Data Reveals a 40-year Arctic Peatland Surge



Scientists used satellite data, drones and on-the-ground observations to assess the edges of existing peatlands (waterlogged ecosystems that store vast amounts of carbon).

The study - led by the University of Exeter - found peatlands in the European and Canadian Arctic have expanded outwards in the last 40 years.

While this could slow climate change by storing carbon, the researchers warn that extreme future warming could cause widespread loss

of peatlands - releasing that carbon and further accelerating the climate crisis.

"The Arctic has warmed faster than the rest of the planet, with average temperatures increasing by about 4°C in the last four decades," said Dr Katherine Crichton.

"This has improved growing conditions for plants, causing 'greening' of the Arctic. We wanted to identify if this greening could be from peatland plant communities.

"We know from paleo records that warmer

periods in Earth's history led to more carbon being stored in peatlands.

"Our new study puts these pieces together to examine whether our warming climate is causing peatland expansion - and we find strong evidence that it is."

Peatlands cover just 3% of Earth's surface but they store about 600 billion tons of carbon - more than all the world's forest biomass combined.

The Arctic has large peatland areas but these peter out in the far north, where harsh conditions limit plant growth.

In the new study, researchers examined 16 sites - a range of peatlands in both the low and high Arctic - and compared data from 1985-95 with the last 15-20 years.

They found strong evidence of expansion at more than two thirds of sites (measured by "peak-summer greening" - increased growth of peatland-forming plants at the edges of existing peatlands).

The largest changes were found in places with the highest increases in summer temperature, such as the Norwegian islands of Svalbard.

"Our findings suggest Arctic peatlands are an increasingly important natural carbon sink, at least in the near term," said Professor Karen

Anderson, from the Environment and Sustainability Institute on Exeter's Penryn Campus in Cornwall.

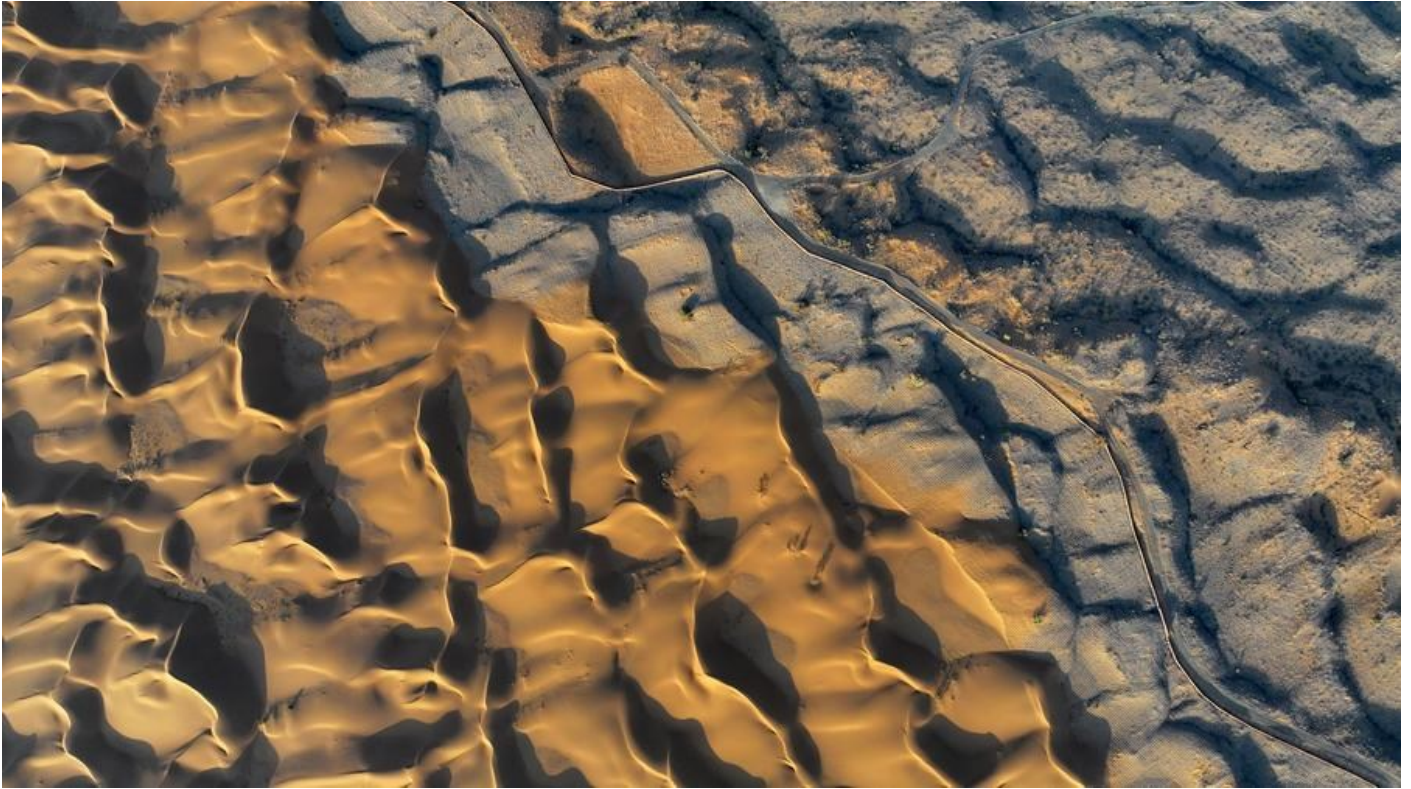
"But if temperatures continue to rise, we are likely to see changes in rainfall, and we are not sure how sustainable new or existing peatlands will be. Plus we could see increases of methane emissions at the same time.

"So - while our study gives us some positive news - it does not detract from the urgent need to reduce greenhouse gas emissions and stabilize our climate."

Read More

<https://www.sciencedaily.com/releases/2025/06/250620031151.htm>

China's Desertification Control Efforts Embrace High-tech Solutions



From employing biotechnological techniques to deploying a range of AI-powered automated machines, China has actively embraced innovations to replace strenuous manual labor in its efforts to build ecological barriers against desertification.

Tuesday marked World Day to Combat Desertification and Drought. Often described as the "cancer of the earth," desertification is a global challenge affecting more than 100 countries and regions. China, one of the countries

most severely impacted, has made significant strides in halting desert expansion through its decades-long afforestation campaign.

Winding through towering sand dunes along the edge of the Tengger Desert, China's fourth-largest, the Lanzhou-Baotou Railway, built in 1958, has not only remained well-maintained and free from encroaching sand over the decades but has also helped transform the barren landscape. Its shelter belts have fostered the growth of biocrust, bringing new life to the

once-desolate land.

The green belt protecting this vital transport artery stands as a near-miracle in the arid landscape. Over the past 60 years, massive human efforts have been mobilized in Zhongwei city, in Northwest China's Ningxia Hui autonomous region, to create "straw checkerboard," a dune stabilization technique where straw is laid out in a checkerboard pattern on the desert surface. These grids have provided a foundation for vegetation to take root and gradually transform the sand into green.

Nicknamed the "Chinese Rubik's Cube," the technique is now widely adopted both across China and internationally to increase soil surface roughness, effectively reducing wind erosion in sandy areas.

Within the checkerboards, the sand surface gradually forms a soil crust that helps prevent wind-driven movement. To speed up this process, Chinese researchers have developed lab-cultured cyanobacteria that accelerate the formation of biological soil crusts.

"Under natural conditions, the formation of biological soil crusts takes 10 to 20 years. With the application of cyanobacteria, that process can be shortened to just one year," said Zhao Yang, a researcher at the Northwest Institute

of Eco-Environment and Resources under the Chinese Academy of Sciences.

Zhao added that the technology has already been applied across more than 267 hectares in Ningxia, with plans to further expand its coverage in the coming years.

By spraying cyanobacterial liquid onto the sand surface and combining it with the straw checkerboard technique, stable artificial biological soil crusts can form within 10 to 16 months. In treated areas, wind erosion has been reduced by over 95 percent, the survival rate of sand-fixing shrubs has increased by 10 to 15 percent, and the need for seedling replacement has dropped by nearly 40 percent, significantly cutting the overall cost of sand control, Zhao explained.

Tang Ximing, chief engineer at the Zhongwei State-owned forestry farm, recalled that with summer ground temperatures as high as 70 degrees Celsius, survival rates of saplings planted in decades ago were just over 40 percent. But the planting efforts have never been baffled.

In 2023, Tang developed an electric drilling device that allows workers to plant saplings into a 50-centimeter-deep layer of moist sand within the checkerboards in under 10 seconds.



Previously, even skilled forestry workers needed three to four minutes to dig a single tree pit manually.

Technology is accelerating China's desertification control efforts, which are shifting from labor-intensive planting methods to innovative strategies powered by advanced technologies and intelligent machine fleets.

Ordos city in North China's Inner Mongolia autonomous region has introduced an integrated smart system that combines remote-controlled desertification monitoring with real-time data from satellite imagery, drone surveys, and ground sensors. This system enables precise tracking of dynamic indicators such as vegetation coverage and soil moisture levels of afforested areas.

Meanwhile, in the green belt surrounding the Hunshandake Sandland -- the nearest desert



threat to Beijing -- planting machines continuously shuttle back and forth, laying checkerboards and sowing grass seeds, making desert afforestation as efficient as plowing farmland.

"Creating straw barriers and sowing grass seeds were once two separate manual steps in sand-fixing planting. Now, the new machine combines both processes," said Wang Lei, director of the intelligent equipment research institute of the Inner Mongolia-based M-Grass Ecological Environment (Group) Co., Ltd.

He added that these intelligent devices outperform manual labor by more than 20 times in terms of work efficiency.

China initiated the Three-North Shelterbelt Forest Program in 1978 to combat desertification across the northwest, north and northeast of the country. The world's largest afforestation project is still undergoing.

Currently, 53 percent of China's treatable sandy land has been effectively managed through afforestation. The country is not only the first in the world to achieve "zero growth" in land degradation and a "double reduction" in desertified and sandy land areas, but has also transformed its role from a recipient of international desertification control aid to a key contributor to global ecological governance.

Tang said the forestry farm receives many for-

eign visitors each year, eager to learn sand prevention and control techniques. He recently demonstrated how to create straw checkerboards and use his electric drilling tool to plant saplings for a group of guests from Mongolia.

China has actively fulfilled its commitments under the United Nations Convention to Combat Desertification by establishing the International Knowledge Management Center on Combating Desertification in Ningxia in



December 2019. The center aims to share China's expertise and experience in desertification control with countries worldwide.

During a visit to Mongolia, Tang saw that the country lacks seedling nurseries. However, it has leveraged its geographical proximity to China's Inner Mongolia Autonomous Region to support seedling cultivation.

In 2024, Inner Mongolia exported a total of 2.8 million saplings to Mongolia, with exports expected to soar to 10 million this year for the green building in Mongolia.

Zhang Tianliang, a seedling exporter based in

Xilingol League, Inner Mongolia, noted that his company recently exported species such as larch, spruce and golden-leaf elm. These trees are highly adaptable to dry, poor soils and severe cold, making them well-suited for cultivation in Mongolia, Zhang explained.

News Source

https://www.chinadaily.com.cn/a/202506/19/WS685369ada310a04af22c72f7_1.html

Vanishing Saltmarshes Threaten Climate Progress but Recovery is Within Reach



The world's saltmarshes are disappearing three times faster than forests, threatening global progress on climate change goals, according to a major new report co-led by the UK Centre for Ecology & Hydrology.

The world's saltmarshes are disappearing three times faster than forests, threatening

global progress on climate change goals, according to a major new report co-led by the UK Centre for Ecology & Hydrology.

In a natural state, saltmarsh absorb and lock in carbon dioxide (CO₂), act as natural flood defences and support biodiversity. But the report points out saltmarshes now only cover an

estimated 53,000km² globally – less than half their original extent – as these coastal wetlands have been drained, diked and reclaimed for farmland, ports or cities. This has resulted in less CO₂ being removed from the atmosphere through saltmarsh vegetation via photosynthesis and more greenhouse gas emitted from the land surface due to degraded habitats.

The State of the World's Saltmarshes, published by WWF, Sky, the UK Centre for Ecology & Hydrology (UKCEH) and Blue Marine Foundation points out habitat restoration could deliver important benefits for climate change and flood mitigation.

The report says between 2000 and 2019, the world saw a net saltmarsh loss of 1,435 km² – an area twice the size of Singapore – which is estimated to have released the net equivalent of 326 million tonnes of carbon dioxide. Saltmarsh continues to disappear at a rate of 0.28% per year, which is faster than other blue carbon ecosystems, such as mangroves and peatlands, and three times faster than forests.

UKCEH coastal ecologist Dr Angus Garbutt, one of the editors of the report, said: “Saltmarshes are wonderful places that bring us with many benefits, including carbon se-

questration, flood protection as well as recreation, providing places to see the wide range of migratory birds and other wildlife supported by these coastal habitats.

“Unfortunately they have long been neglected but there is hope. There has been successful saltmarsh recovery in parts of the United States, northwest Europe, China and Australia, and we hope this spurs others to take action. Fairly minimal investment in restoration projects could deliver significant cost-effective climate benefits.”

The report highlights that globally up to 20,000 km² of saltmarsh could, with the right support, be restored, unlocking their vast potential as powerful carbon sinks and flood defences. This would result in the equivalent of 36 million tonnes less CO₂ in the atmosphere each year through a combination of removal of greenhouse gas from the air and avoided emissions from land.

Read More

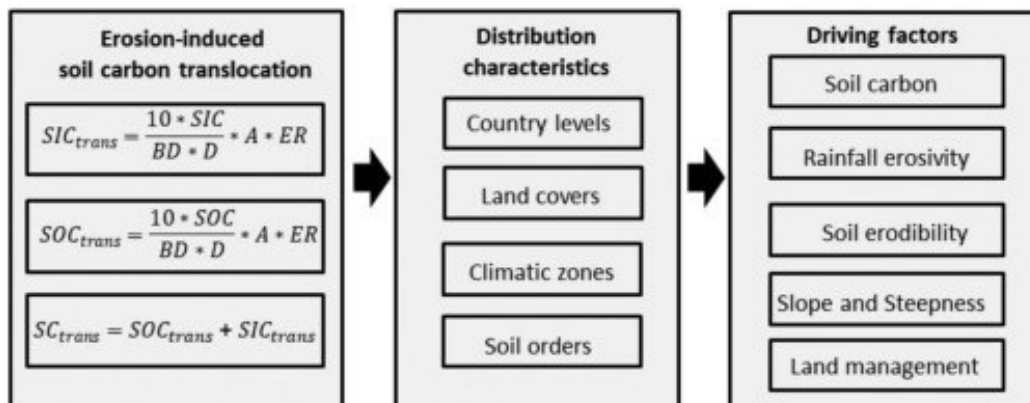
<https://www.enr.com/articles/76691-vanishing-saltmarshes-threaten-climate-progress-but-recovery-is-within-reach>

Global Patterns and Determinants of Erosion-induced Soil Carbon Translocation

Abstract and Graphical Abstract

Soil erosion is a critical process influencing the global carbon cycle. However, erosion-induced carbon changes remain inadequately understood, particularly for soil inorganic carbon (SIC). There is also limited knowledge about the factors influencing soil carbon dynamics during erosion processes. Here we quantify the global translocation of soil organic carbon (SOC) and SIC due to soil erosion using data-driven global soil carbon estimates combined with a soil erosion map derived from the Revised Universal Soil Loss Equation (RUSLE) model. Our analysis reveals that global SIC and SOC translocations from soil erosion are 107.1 Tg C yr⁻¹ and 898.4 Tg C yr⁻¹, respectively. These translocations exhibit distinct patterns across aridity gradients

and different biomes and soil types, with SIC translocation increasing while SOC translocation decreasing with aridity. Croplands exhibit significantly higher soil carbon translocation compared to natural vegetation, with SIC translocation being 2.41 times higher and SOC translocation 0.65 times higher than in forests. Topographic features (slope length and steepness) predominantly determine soil carbon translocation during erosion, with steeper and longer slopes exacerbating erosion and subsequent SIC/SOC translocation. Land use change, particularly agricultural practices, is also a critical driver. Our findings provide valuable insights into the factors influencing SIC and SOC translocation, enhancing our understanding of the global patterns and determinants of erosion-induced soil car-



bon dynamics.

Materials and Methods

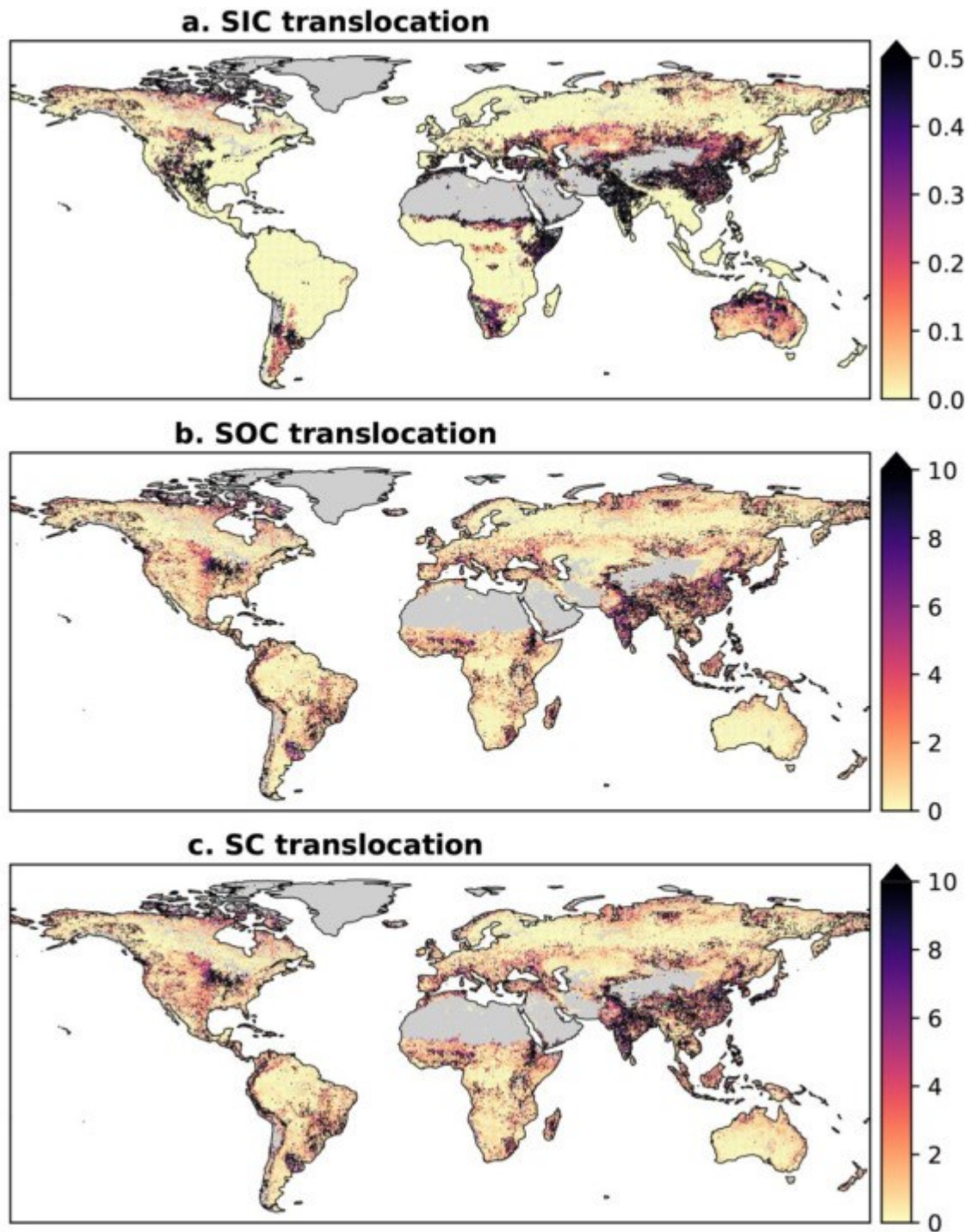
In this study, we first estimated the SIC, SOC, and SC translocation from soil erosion, respectively. We did statistics of soil erosion-caused SIC and SOC translocation at a country scale. Then, we analyzed the SIC and SOC translocation from soil erosion stratified by aridity gradients, biomes, and soil types. Finally, we evaluated the relative contributions of different factors to SIC and SOC translocation.

Here, we considered the main environmental and anthropogenic factors regulating soil carbon translocation from soil erosion, including rainfall runoff erosivity factor (R , $\text{MJ mm h}^{-1} \text{ha}^{-1} \text{yr}^{-1}$), soil erodibility factor (K , $\text{Mg h MJ}^{-1} \text{mm}^{-1}$), slope length and steepness factor (LS , dimensionless), land cover and management factor (C , dimensionless), soil conservation or prevention practices factor (P , dimensionless) and different components of soil carbon (SIC or SOC, kg m^{-2}). Then the boosted regression trees (BRT) model was used to explore the above controlling factors for spatial variations in soil erosion-caused SIC and SOC translocation. The BRT model offers several advantages: it incorporates regression

trees, which relate a response to predictors through recursive binary splits, and boosting, an adaptive technique that combines multiple simple models to enhance predictive performance. It also can accommodate various types of predictors (Elith et al., 2008).

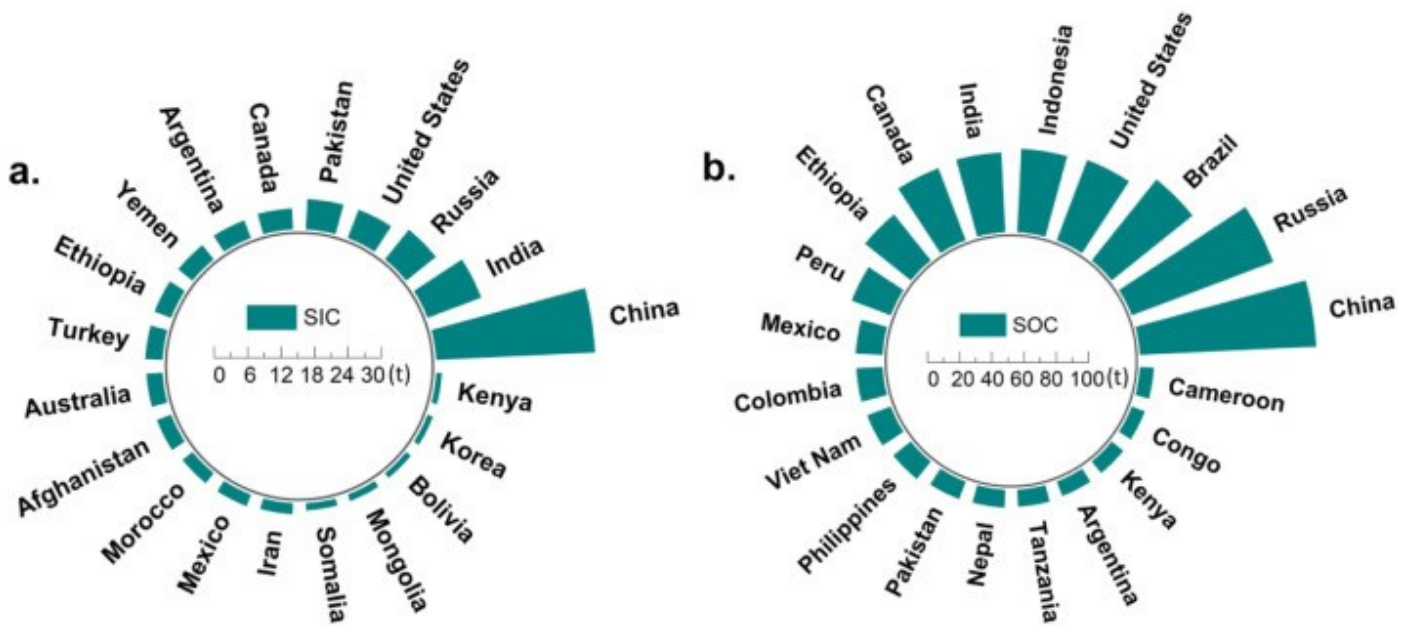
Results

The highest levels of SIC translocation (e.g., $> 2 \text{ g C m}^{-2} \text{ yr}^{-1}$) are observed in India, South-eastern China, the western United States, and East Africa (Figure. 1a). These areas are associated with widespread croplands that are hotspots of soil erosion (Figure. S1). High SIC translocation also tends to appear in arid and semi-arid regions where SIC dominates the total soil C stock, including Australia, South Africa, Argentina (Figure. 1a). While the pattern of SOC translocation is different from that of SIC translocation in some regions: lands experiencing high SOC translocation (e.g., $> 6 \text{ g C m}^{-2} \text{ yr}^{-1}$, Figure. 1b) are predominantly found in southeastern Asia, the east of United States, eastern Brazil and the African Sahel (Figure. 1b). Additionally, we found the pattern of SOC translocation is similar to that of soil erosion globally (Figure. 1 & Figure. S1), suggesting the importance of soil erosion pro-



cesses on SOC translocation. Due to most regions having a relatively higher concentration of SOC than SIC except the arid and semi-arid

areas, the spatial pattern of SC translocation from soil erosion is very similar to the pattern of SOC translocation (Figure 1b, c).



Globally, SIC and SOC translocations resulting from soil erosion are 107.1 Tg C yr⁻¹ and 898.4 Tg C yr⁻¹, respectively. The country-specific results of SIC and SOC translocation are illustrated in Figure 2. At the country level, China experienced the most severe soil carbon translocation of about 137.4 Tg C yr⁻¹, of which SOC translocation is 109.5 Tg C yr⁻¹ and SIC translocation is 27.9 Tg C yr⁻¹, respectively. Following China, India (10.1 Tg C yr⁻¹), the United States (6.7 Tg C yr⁻¹), Pakistan (5.3 Tg C yr⁻¹), and Canada (5.2 Tg C yr⁻¹) rank next in terms of SIC translocation from soil erosion. Following China, Russia (93.9 Tg C yr⁻¹), Brazil (64.3 Tg C yr⁻¹), United States (53.3 Tg C yr⁻¹), Indonesia (51.8 Tg

C yr⁻¹), India (49.4 Tg C yr⁻¹), Canada (47.9 Tg C yr⁻¹), and Ethiopia (36.5 Tg C yr⁻¹) ranked next in terms of SOC translocation associated with soil erosion. Additionally, we observed that most of the top 20 countries with SIC or SOC translocation are developing countries, where soil erosion is often severe due to the extraction of natural resources and agricultural practices.

Read More

<https://www.sciencedirect.com/science/article/pii/S2666683925000677>

Contents of Issue 3, 2025 for ISWCR

Economic comparison of conventional and conservation tillage in a long-term experiment: Is it worth shifting?

Balázs Madarász, Éva Zsuzsanna Járasi, Gergely Jakab, Zoltán Szalai, Márta Ladányi

Pages 385-399

<https://www.sciencedirect.com/science/article/pii/S2095633925000176>

An integrated wind erosion model with nonphotosynthetic vegetation (NPV) based on remote sensing

Heqiang Du, Yawei Fan, Ruiqiang Ding, Zongxing Li, Liu Yongjie

Pages 511-525

<https://www.sciencedirect.com/science/article/pii/S2095633925000413>

An experimental study on the responses of spring snowmelt erosion to driving factors in a Chinese Mollisol soil

Lun Wang, Fenli Zheng, Xinyue Yang, Rui Liang, ... Dennis C. Flanagan

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