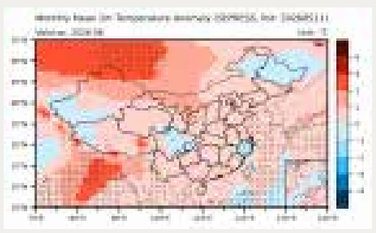
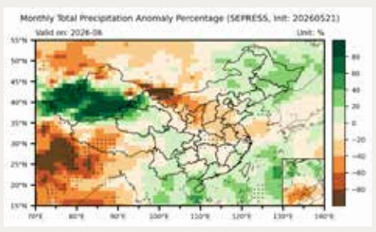
QUARTERLY REVIEW

Highlights

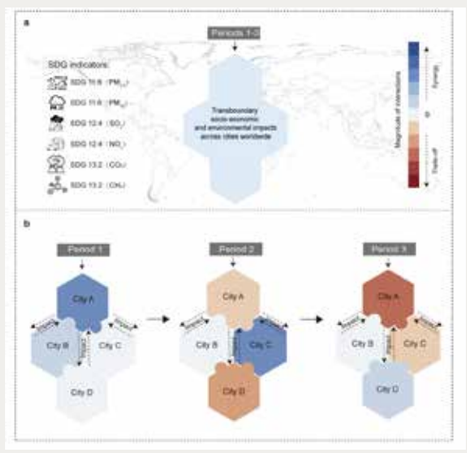
June

SEPRESS Team Releases June 2026 Forecasts for Key Climatic variables and Assessment of Disaster Trends in China and Globally





Nature Communications Reveals Spatiotemporal Linkage Mechanisms of Emission-Related SDGs Among Global Cities



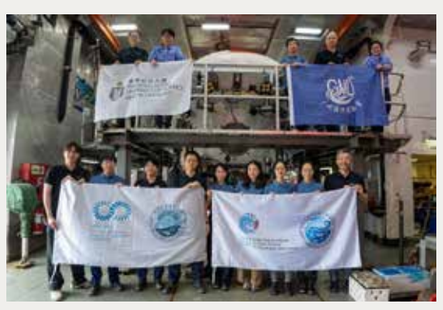
Otto Poon Lecture Series 2026 — "Taming the Storm: Can We Predict, Engineer, and Reduce Losses from Climate and Weather Extremes?"

July

6th Climate, Weather and Water Forum Concludes in Hong Kong

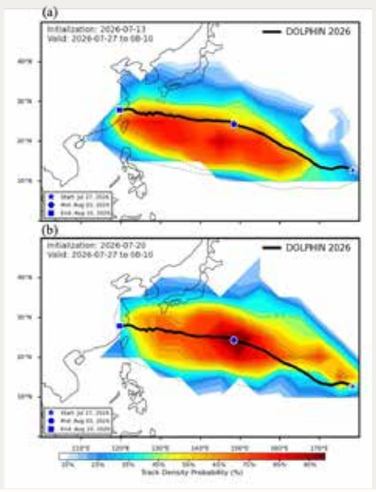
WAIC 2026 in Review: Meteorological AI Moves from National Strategy to Industry Implementation

HKUST Successfully Completes Deep-Sea Scientific Expedition to the Haima Cold Seep in the South China Sea

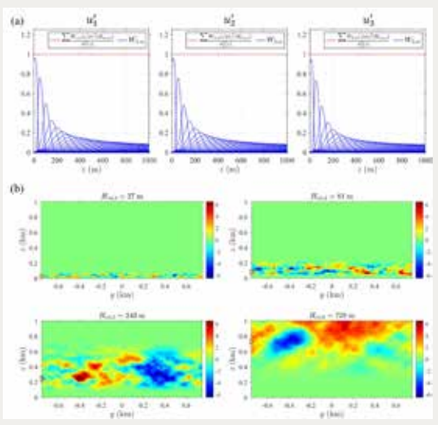


August

The Month-Long Warning: HKUST-V1Detected Typhoon Dolphin 14 Days Before Formation and Locked Its Full Track and Landfall Region 27 Days in Advance



HKUST Researchers Break the "Mapping Bottleneck" in Inflow Turbulence Generation for Atmospheric Boundary Layer Simulations with Adaptive Energy-Preserving Mapping Strategy



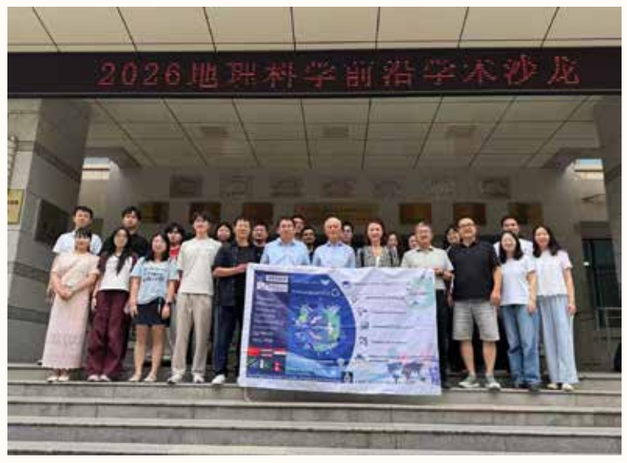
CUAESS Holds 2nd Young Scholars Forum and Council Meeting at Tsinghua University

HKUST | CCRS | WSDI DMS

NEWSLETTER

From the Lecture Hall to the Qilian Mountains: HKUST Team in Lanzhou

From 24 to 26 August 2026, the Mainland–Hong Kong Symposium on the Frontier Integration of Climate Simulation and Artificial Intelligence was held at Lanzhou University. Part of the Ministry of Education's exchange programme for university teachers and students from the Mainland, Hong Kong and Macao, the symposium was hosted by the College of Earth and Environmental Sciences of Lanzhou University and co-organized by the Department of Civil and Environmental Engineering of HKUST, coinciding with the College's 80th anniversary. The the HKUST team took part in the three-day exchange with scholars and students from Tsinghua University, Southern University of Science and Technology, the Chinese Academy of Sciences and other institutions, followed by a field expedition to the Qilian Mountains.



Group photo in Lanzhou University

On the morning of 25 August, Prof. Mengqian Lu delivered a keynote entitled "Meteorological Intelligence: From Science, Engineering to Solutions", presenting the team's multi-hazard early-warning intelligent agents and the latest progress of the SEPRESS big-science programme — powered by AI and big data, connecting scientific understanding, engineering implementation and decision-oriented services so that weather intelligence can truly support disaster risk reduction and industry applications.


Team field investigation in the Qilian Mountains

From 27 to 29 August, the team travelled to the Qilian Mountains for a field expedition, visiting the Liancheng Forest Ecosystem Observation and Research Station of Gansu Province and the eastern Qilian Mountains. At Liancheng, the team toured the climate-change manipulation experiments and the long-term observation system tracking tree growth and ecophysiological processes across water–heat gradients, and exchanged views with station researchers on cross-validating long-term climate records with modern controlled experiments. Along the eastern Qilian Mountains, the team examined alpine vertical vegetation zones and observed firsthand the upward shift of timberlines, shrub encroachment and changes in water-source conservation. The two sides exchanged views and reached initial consensus on the long-term development of the observation station, coordinated data collection and intelligent data management, a digital meteorological monitoring network, data-sharing mechanisms and joint talent cultivation.

In the afternoon youth forum, young members of the team shared the stage with students and early-career researchers from Lanzhou University, covering topics such as compound hot-humid heatwave and atmospheric-river events in eastern China, bias correction and intelligent-agent applications for sub-seasonal rainfall forecasts, and kilometre-scale wind-speed changes in the Guangdong–Hong Kong–Macao Greater Bay Area and their sectoral impacts. Discussions on bias correction, data assimilation and the interpretability of AI models ran deep and lively.

From lecture hall to snow mountains, the trip showcased the team's work in weather intelligence and gave us a firsthand appreciation of ecological responses under climate change. The HKUST team will continue to deepen collaboration with mainland institutions in data, observation and talent cultivation, working together toward smarter prediction of, and resilience against, extreme weather.

Weather Intelligence for a Low-Carbon Asia-Pacific at APEC

On 3 September 2026, the APEC Workshop on "Technology-Enabled Low-Carbon Action (TELCA): Roadmap, Accessibility and Partnership" was held at the Shenzhen (Longhua) International Cooperation Center. Focusing on the intersection of technological innovation and low-carbon development, the workshop brought together policymakers, experts, scholars and business representatives from APEC member economies to explore how technology can better empower the low-carbon transition. Prof. LU Mengqian, Professor of the Department of Civil and Environmental Engineering, the Department of Ocean Sciences and the Department of Finance at HKUST, and Director of the Otto Poon Center for Climate Resilience and Sustainability, attended the workshop and delivered a keynote entitled "Climate Technology Innovation: Accelerating Industrial Low-Carbon Transition in the Asia-Pacific".

Prof. LU Mengqian in APEC

In her keynote, Prof. Lu highlighted the latest advances in weather intelligence: by deeply integrating artificial intelligence and data science into weather and climate prediction, a seamless and refined prediction system across timescales, moving meteorological forecasting from "predicting the weather" toward "intelligent services for decision-making". She shared the team's research achievements and real-world applications in weather-intelligent prediction and early warning — including supporting infrastructure resilience, optimizing renewable energy scheduling, and serving the water-energy-food nexus and climate risk management — demonstrating how weather intelligence enables industries to accurately assess climate risks and optimize energy layouts. During the workshop, Prof. Lu engaged in in-depth exchanges with delegates from APEC member economies on low-carbon technology innovation, technology accessibility and cross-economy cooperation, exploring broad prospects for climate prediction services in supporting industrial decarbonization and the region's green transition.

HKUST Visits the National Supercomputing Center in Shenzhen


Group photo in the National Supercomputing Center

On 16 September, a HKUST delegation visited the National Supercomputing Center in Shenzhen for a research exchange focused on AI for Science. Together with representatives from the Gaoling School of Artificial Intelligence at Renmin University of China and the Greater Bay Area Meteorological Monitoring, Warning and Forecasting Center (Shenzhen Institute of Meteorological Innovation), the delegation explored cross-disciplinary pathways integrating supercomputing, artificial intelligence and meteorological science through topical presentations and in-depth discussions. In the symposium, Prof. Mengqian Lu, Director of CCRS, delivered a presentation alongside senior researchers of the Center and Renmin University, sharing the team's latest progress and core breakthroughs in AI-driven innovation for meteorological science, from supercomputing-enabled intelligent research to cross-disciplinary computing adaptation.

The Center's High-Performance Computing Department also presented its innovations in meteorological applications — intelligent adaptation of weather models, AI-enabled precise forecasting and early warning, and intelligent simulation of complex weather problems on domestic supercomputing platforms. After the symposium, the delegation toured the Phase-II application showcase and the "Lingsheng" supercomputer, gaining firsthand insight into the hardware architecture, machine-room operations and computing deployment of this new-generation domestic platform. The visit laid a solid foundation for joint research, young-talent exchange and cross-disciplinary collaboration between Hong Kong and Shenzhen, and the team looks forward to deepening HKUST-Shenzhen collaboration in high-performance computing, AI and meteorological science, contributing to the development of the Guangdong-Hong Kong-Macao Greater Bay Area as an international center for science and technology innovation.