2025. September Edition
(Webzine No.3)

K-water Academy Webzine

[Climate Crisis and Water Security]

- Climate change in Korea
- Why Sustainable Water Management is Important

[K-water's Cutting-edge Technologies for Climate Crisis Response]

- Super Gap Technologies
- Leading Edge Technologies

Highlights of K-water Academy in this era

- Stay tuned for K-water Alumni Online Reunion

K water

Part 1. Climate Crisis and Water Security – Climate change in Korea

In 2024, Korea experienced highest average annual temperature. According to the Korea Meteorological Administration(KMA), the annual mean temperature reached 14.5 °C, which is 2.0 °C above the long-term climate normal (1991–2020 average of 12.5 °C). This surpasses the previous record of 13.7°C(2023 average temperature), making 2024 as the hottest year on record in Korea

(Source: KMA/ January, 2025)



Record Heat — Highest annual average temperature: 14.5 °C

Tropical Nights — 24.5 days nationwide (3.7 times higher than normal)

Extreme Rain — Hourly rainfall >100 mm at 16 regions during summer 2024

K water

Part 1. Climate Crisis and Water Security – Why Sustainable Water Management is Important

Likewise Korea is confronting an era of climate changes such as unexpected floods and heavy rains. In response, the Korea Meteorological Administration(KMA) has begun issuing forecasts for *'extreme rainfall (beyond heavy rain)'*, indicating that the country is now entering a new rainfall regime beyond traditional heavy rains.

Recent Historic Flood & Rainfall Events

(In 2020),
Korea experienced nationwide floods and recorded the longest monsoon (for 54days)

(In 2022),
Seoul was hit by an urban flood event, receiving 141.5mm per hour

(Source: YNA/ August, 2022)



- Rainfall in Korea is abundant yet highly uneven
- Mitigating flood damage and securing water supply is vital

This is the time when technology-based smart water management becomes not only important but essential.

K water

Part 2. K-water's Cutting-edge Technologies for Climate Crisis Response

K-water is transforming water management through *three Super-Gap Technologies*:

- o **Digital Twin** – Real-time simulation & forecasting of floods and droughts
- o **AI Water Treatment Plants** – Autonomous & energy-efficient purification process
- o **Smart Water Network Management** – AI leakage detection & optimized pipelines



Based on Super-Gap Technologies, K-water continues to challenge the climate crisis by advancing *global leading-edge technologies*!

- Floating Solar Power
- Desalination
- Green Hydrogen
- Hydrothermal Energy
- Tidal Power
- Ultrapure Water

K water

Part 3. Highlights of K-water Academy in this era

For over 40 years, K-water Academy has empowered global water professionals with cutting-edge knowledge and hands-on training. While building infrastructure is vital, strengthening capacity and fostering knowledge exchange are equally essential for a sustainable water future.

World-Class Infrastructure



Knowledge Exchange&Transfer



Capacity Building Global Hub

6,037
PROFESSIONALS
FROM 122 COUNTRIES





Get ready to REyouNITE ! Our global alumni reunion goes online this November.





K water

Connect with K-water Academy and learn more about our innovative programs about water management and join our global network with water professionals working toward a sustainable water future.

REACH OUT K-WATER ACADEMY

Contact Us:
academy@kwater.or.kr

Homepage:
www.kwater.or.kr/academy

YouTube:
www.youtube.com/@kwateracademy1431

Facebook:
www.facebook.com/KwaterAcademy

Instagram:
www.instagram.com/kwater_academy

K water