CAPPADOCIA UNIVERSITY
Logic - Wisdom - Equality - Tradition

SUSTAINABLE DEVELOPMENT GOALS • ANNUAL REPORT

Water matters.
Knowledge protects it.
Action sustains it.

SDG 6 / CLEAN WATER AND SANITATION



Monitoring our water use, improving campus efficiency, supporting watershed science and strengthening water stewardship.

Reporting Period: 2025



Campus conservation communication and water infrastructure: an institutional view of resource stewardship.

2025 • CAPPADOCIA UNIVERSITY • ENGLISH EDITION

THE 2025 STORY

Water stewardship as a responsibility we share

We connect direct water measurement with practical conservation, environmental research and public learning.

In the semi-arid landscapes of Cappadocia, responsible water management is essential to resilient campuses and healthy ecosystems. At **Cappadocia University**, we treat water as a resource to be **measured, conserved, protected and understood**, linking operational decisions with education and regional environmental research.

During **2025**, we maintained **monthly water-use tracking**, continued using water-saving fixtures and rainwater infrastructure, supported water-conscious campus practices, and strengthened research on **river quality, freshwater biodiversity and groundwater management**. Our long-running **Cappadocia Water programme** gives these activities a common institutional direction.

Our natural-resource monitoring records report **25,885 m^3 of water consumed in 2025**, compared with **20,868.23 m^3 in 2024**. This represents an **increase of 24.0%** in recorded total consumption. The increase reinforces the importance of transparent monitoring, targeted water-efficiency measures and operational analysis.

25,885 m^3	12	3
WATER CONSUMPTION	**MONTHS TRACKED**	**2025 ARTICLES**
2025 recorded total	Monthly consumption records	Peer-reviewed water research

Three connected responsibilities

OPERATIONS	RESEARCH	COMMUNITY
Measure consumption, maintain fittings and improve rainwater management	Examine aquatic biodiversity, water quality and human–aquifer relationships	Build awareness through events, student activities and local engagement

OUR UNIVERSITY

A place-based approach to water resilience

The environmental character of Cappadocia shapes how we manage infrastructure and develop knowledge.

Founded as a higher education institution in **2005** and established as **Cappadocia University in 2017**, we teach, research and engage with communities across multiple campus settings in Cappadocia and İstanbul. Our historic sites, academic buildings, laboratories, training areas and landscaped spaces present different operational requirements for water supply, sanitation and maintenance.

Through our **2023–2028 Strategic Plan**, **Environmental and Sustainability Policy** and **Climate Action Policy (KÜN.PB.014, October 2024)**, we connect resource efficiency with responsible infrastructure, ecosystem protection and climate adaptation. We have consistently treated **water conservation** as a practical element of our environmental and climate responsibilities, not simply an isolated technical project.

The **Cappadocia Water programme**, established within our wider sustainability activity framework, addresses drinking and utility water, wastewater management, conservation, reuse opportunities, permeable surfaces, landscape irrigation, awareness and training. Its continuity matters: actions taken during 2025 were part of an established institutional programme rather than being newly invented in the following year.



Figure 1. Water-awareness information boards in our campus landscape, supporting everyday conservation messages.

TRACKING OUR WATER

Measured monthly, reviewed across the year

We use a documented resource-monitoring process instead of relying on estimates of savings.

We monitor water through institutional water records and the **Natural Resource Consumption Monitoring List (Mİ.LS.005)**. Our 2025 worksheet contains consumption entries for **all 12 calendar months**, supporting comparison across seasons and with the preceding year. It provides a traceable basis for discussing consumption and identifying periods of unusual demand.

MONITORING MEASURE	2024	2025
Recorded annual water consumption (m^3)	20,868.23	25,885
Monthly records available	12 months	12 months
Year-on-year change	—	+24.0%



Figure 2. Recorded annual water consumption at our University, 2024 and 2025 (m^3).

Our **5,016.77 m^3 year-on-year increase** signals a greater absolute resource demand in the 2025 record. We use this result to prioritise continued monitoring, water-efficient replacement and more detailed analysis of the relationship between use, facilities and campus activity. The next stage of monitoring will connect subscription-level trends with facilities activity and individual infrastructure interventions.

SEASONAL PATTERNS

Understanding where and when demand changes

Monthly information helps us direct attention to variations that an annual total conceals.

Our monitoring records show substantial variation within 2025, with **6,274 m^3 in May**, **3,454 m^3 in July** and **6,197 m^3 in October**. The year's lowest recorded months were **September (558 m^3)** and **March (704 m^3)**. These figures are read as recorded demand patterns; the worksheet alone does not identify the operational causes of each peak.

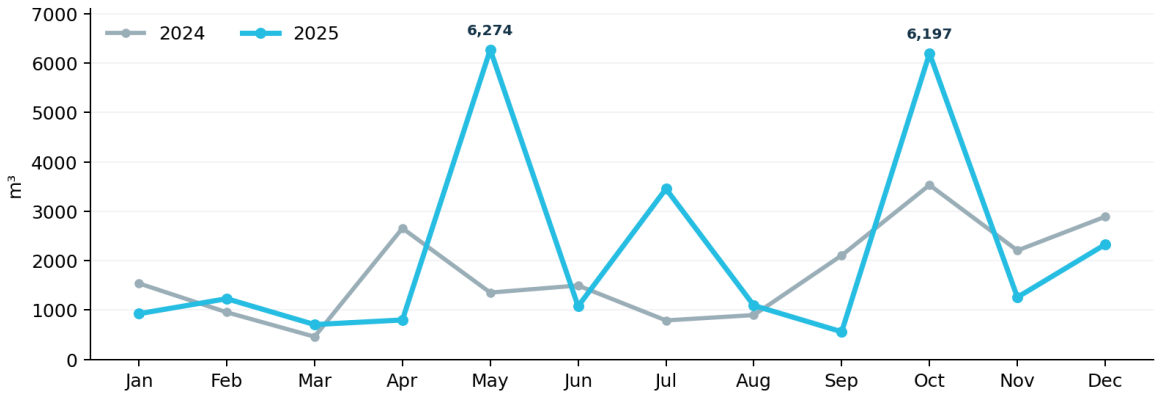


Figure 3. Monthly recorded water consumption, 2024 and 2025 (m^3).

2025 MONTH	RECORDED WATER (m^3)	2025 MONTH	RECORDED WATER (m^3)
January	924	July	3,454
February	1,228	August	1,090

2025 MONTH	RECORDED WATER (m^3)	2025 MONTH	RECORDED WATER (m^3)
March	704	September	558
April	797	October	6,197
May	6,274	November	1,257
June	1,075	December	2,327

The **month-by-month records** provide an accessible basis for comparing annual patterns and planning targeted action. Our next operational priority is to connect monthly consumption anomalies with subscription-level reviews, maintenance records and the activity taking place in individual campus facilities.

EFFICIENT INFRASTRUCTURE

Water-saving technology in daily use

We reduce unnecessary draw-off through practical equipment choices and routine maintenance.

We use water-efficient equipment across our buildings, including **dual-flush toilet cisterns, pedal-operated taps, pressure-reducing fittings and water-efficient washing machines**. Our 2024–2025 institutional inventory records **74 dual-flush cisterns**, **12 pedal-operated taps**, **120 pressure-reducing fittings** and **13 water-efficient washing machines**. These installed technologies support efficient use during routine operations and maintenance.

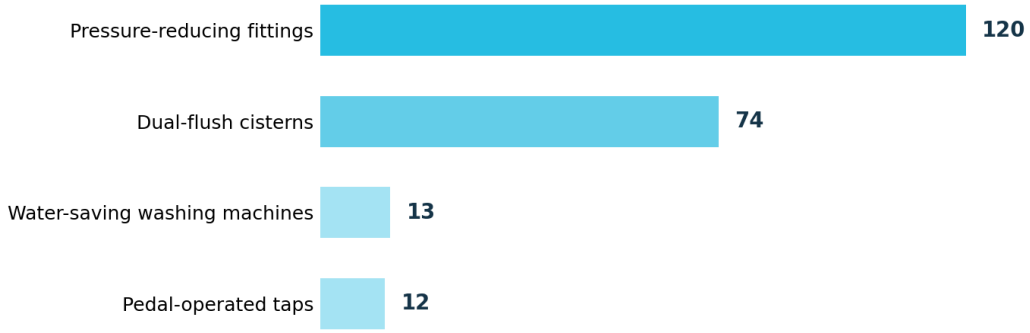


Figure 4. Selected water-saving equipment recorded for our 2024–2025 campus infrastructure.

The same inventory records the use of water-efficient fittings in **training kitchens and dining facilities**, alongside **periodic leakage checks and descaling maintenance**. Through our Facilities and Support Services operations, we identify plumbing problems, maintain performance and progressively replace less efficient equipment as upgrades become possible.

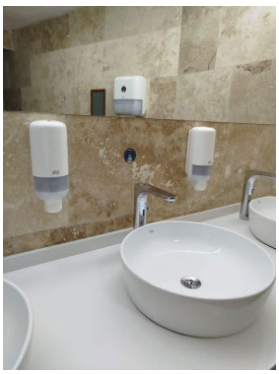




Figure 5. Water-efficient fittings in University facilities, illustrated by the later facilities inventory.

Our later equipment inventories document further additions, but figures first recorded for the 2025–2026 period are not included as completed 2025 installations.

RAINWATER & LANDSCAPES

Using rain more intelligently

Rainwater storage and lower-demand planting contribute to drought-aware campus management.

Our **Cappadocia Water programme** promotes capturing rainwater and using suitable stored water for non-potable purposes, particularly **landscape irrigation**. We have developed **rainwater harvesting infrastructure and landscape-water management practices**, supported by our established institutional programme. We also maintain permeable surfaces where feasible and incorporate **low-water planting and irrigation management** in landscaped areas.

Water-sensitive landscaping is particularly relevant in Cappadocia's climate. We seek to conserve moisture through appropriate plant selection, responsible irrigation and regular review of landscape needs. Lavender and other low-water planting examples are consistent with this approach, without assuming that all planted areas require identical irrigation or that an unmeasured volume of mains water has already been displaced.





Figure 6. Examples of water-storage and supporting infrastructure in later campus facilities records.

During **2025**, we continued the operational groundwork for extending water storage and alternative supply options. Later facilities records describe **30 m^3 and 40 m^3 rainwater tanks** in the **2025–2026** period. We present these later additions separately from the conservation programme implemented during **2025**.

SANITATION AND WATER QUALITY

Protecting water after use

Water stewardship covers safe disposal and pollution prevention as well as drinking-water efficiency.

Our responsibility extends from water supply to the safe management of **wastewater**. Campus sanitary flows are managed through relevant wastewater collection and local treatment arrangements, while technical and laboratory activities require appropriate controls to prevent unsuitable substances entering drainage systems. Our environmental management approach combines segregation, planned maintenance and compliance with applicable treatment and discharge arrangements.

We work within the local wastewater-management context of **Ürgüp Municipality**, including the municipal treatment infrastructure serving the area. Our wastewater-management approach includes **collection, appropriate treatment and pollution prevention**. Our longer-term programme also develops separate, measurable reuse options for non-potable applications.

Water quality is also a scientific issue. By supporting river-monitoring studies and biological assessment, we contribute knowledge that can help identify pollution pressures and inform more sustainable resource-management decisions beyond our campuses.



Figure 7. Local municipal wastewater-treatment infrastructure in the Ürgüp area, an important element of regional sanitation.

PUBLIC WATER ACCESS

Accessible hydration and everyday choices

Safe drinking-water provision and reusable containers are part of responsible campus life.

Our University provides **drinking-water refill arrangements** within campus facilities and promotes reusable drinking containers as an alternative to unnecessary single-use packaging. These measures connect hydration, resource awareness and waste prevention in practical student and staff settings.

Our refill facilities support everyday access to drinking water and contribute to wider efforts to encourage reusable containers. We integrate these facilities into our approach to responsible resource use and campus sanitation.



Figure 8. Drinking-water refill provision supporting reusable-container habits on campus.

POLICY AND CONTINUITY

From work begun in 2025 to formal documents in 2026

Our 2025 activities provide the operational foundation for a later, more detailed management framework.

During **2025**, we developed the groundwork for a dedicated water-efficiency policy and a structured system of measurable targets. This development built upon our existing **Environmental and Sustainability Policy**, **Climate Action Policy**, **Cappadocia Water programme**, facilities management and natural-resource monitoring.

We subsequently published the **Water Efficiency Policy Document (KÜN.PB.016)** and the **Water Efficiency Targets and Action Plan (KSP.PL.022)** in **August 2026**. These later publications consolidate priorities that were under development in 2025; we do not describe them as adopted policies or completed targets in the 2025 reporting year.

Selected longer-term targets formalised in August 2026

DIRECTION	2030 TARGET / STATUS
Reduce water-use intensity	1.91 m^3 per person per year (planning target)
Increase water-efficient equipment share	99% (planning target)
Expand drought-tolerant landscapes	10% of landscaped area (planning target)
Extend rainwater harvesting	0.25% of irrigation water (planning target)
Develop greywater recovery	Two buildings with recovery systems (planning target)
Continue monthly monitoring	12 monitoring records per year

The plan provides measurable **multi-year commitments** for our future programme. We will evaluate water-use intensity using a clearly defined campus-population basis and continue strengthening the links between monitoring, maintenance and the resulting resource performance.

WATER AND CLIMATE ACTION

Adaptation begins with careful resource management

We use the same climate-policy foundation for water efficiency and broader environmental resilience.

Our **Climate Action Policy (KÜN.PB.014), issued in October 2024**, identifies **water management and conservation** among the priorities for responding to climate-related pressures. Throughout **2025**, our work on consumption monitoring, leakage prevention, low-water landscapes and rainwater infrastructure supported that institutional commitment.

The connection is practical: water conservation can reduce pressure on local resources during dry periods, while appropriate irrigation and water reuse planning contribute to operational resilience. Our scientific work on groundwater and aquatic ecosystems improves understanding of the environmental systems affected by changing rainfall, pollution and extraction pressures.

Our **water-consumption accounts** complement our **greenhouse-gas inventory** as separate measures of environmental performance. Together, they inform planning for **climate resilience, resource efficiency and responsible campus operations**.

FRESHWATER RESEARCH

2025 research on rivers, biodiversity and aquifers

Our published studies connect field measurements, ecological indicators and resource-management decisions.

In **2025**, our academic staff contributed to three peer-reviewed studies addressing the condition and governance of water resources. Taken together, these publications span **biological river assessment**, **physicochemical water quality** and the **human dimensions of groundwater management**.

River biodiversity as a water-quality signal

Öztürk, Çiçek and Negiz (2025) published **"Seasonal Evaluation of Ephemeroptera (Insecta) Fauna of Eastern Mediterranean Basin and Determination of Water Quality With Physicochemical Parameters and Benthic Metrics"** in *Ecohydrology*. The study analysed field observations from **20 sampling localities**, identifying **965 individuals from 17 species** of mayflies. We combined biological assemblage indicators with physicochemical information to examine spatial and seasonal water-quality conditions in the basin. The paper was first published on **21 April 2025**.

Diatom indices in the Köprüçay River

Özel and Tekin-Özan (2025) published **"Determination of Water Quality in the Köprüçay River (Antalya–Türkiye) Using Various Epilithic Diatom and Water Quality Indices"** in *Aquatic Ecology*, **59**, pp. **877–906**. The study examined water chemistry alongside epilithic diatom assemblages, identifying **117 taxa across 51 genera**. These methods support complementary perspectives on river condition and pollution pressures. The article was published on **23 May 2025**.

Human–aquifer relationships in the Palas Basin

Soylu and Dadaşer-Çelik (2025) published **"Understanding Human–Aquifer Interactions Using Fuzzy Cognitive Mapping Approach at the Palas Basin"** in *Landscape and Ecological Engineering*, **21**, pp. **287–302**. By comparing perceptions of farmers and public officials and modelling management scenarios, the study examined how economic decisions, irrigation and pumping influence groundwater pressures. It was published on **5 February 2025**.

2025 STUDY	RESEARCH APPROACH	WATER-MANAGEMENT RELEVANCE
Eastern Mediterranean Basin (Öztürk et al.)	Mayflies, benthic metrics and water chemistry	Ecological status and freshwater biomonitoring
Köprüçay River (Özel & Tekin-Özan)	Epilithic diatoms and water-quality indices	River-condition assessment and pollution indicators
Palas Basin (Soylu & Dadaşer-Çelik)	Fuzzy cognitive mapping and scenario analysis	Groundwater governance and resource-use trade-offs

RESEARCH IN DEVELOPMENT

Taking water science into our region

Local research programmes support better understanding of river systems and pollution pathways.

Our project **KÜN.2025-BAGP-002**, **"Assessment of the Effects of Nevşehir Province on the Water Quality of the Kızılırmak River Using Various Indices"**, was recorded on **30 August 2025** as an ongoing **15-month scientific research and development project**. Led by **Tuba Elif Özel** with **Mehmet Soylu** and **Bahadır Özel**, it addresses the effects of regional pressures on the quality of one of Central Anatolia's major river systems.

We also documented a continuing study of the potential physicochemical effects of tributaries including **Damsa Stream, Derinöz Stream and Alaçoraközü Stream** on Kızılırmak water quality in our institutional research activity reporting. Together, these initiatives help build the evidence base for evaluating pollution and resource-management pressures in the region.

These **ongoing research projects** expand our capacity for scientific investigation and provide a basis for future decisions on water-quality assessment and regional resource management.

WATER EDUCATION

Building knowledge among students and wider communities

Water-conscious behaviour is strengthened through public discussion and learning opportunities.

Our **Cappadocia Water programme** uses information boards and other communication channels to make water conservation visible to students, academic staff, administrative personnel and visitors. This is supported by environmental learning activities and the work of our student community for sustainable development.

During **2025**, our public event programme included a **Water Efficiency Knowledge Quiz** announced for **6 January 2025**, **Water Efficiency Training** advertised for **9 January** and **25 December 2025**, and water-efficiency knowledge quizzes advertised for **25 December** at the Oktay Sinanoğlu Conference Hall and **26 December** at our İstanbul Sabiha Gökçen Campus. These dated programmes demonstrate our awareness-raising agenda; without separate attendance records, we do not assign participant totals.

For **World Water Day on 22 March 2025**, we promoted a student visit to **Sultan Sazlığı**, a significant wetland ecosystem. The event announcement specified a **capacity of 35**, which we distinguish from verified attendance. Our annual activity reporting also records water-related communication for **World Rivers Day** and **World Water Day**, connecting everyday conservation to watershed and wetland protection.



Figure 9. Water conservation learning and wetland awareness supported by University activities in 2025.

2025 RESULTS

What our measured work demonstrates

Progress is strongest when recorded outcomes are distinguished from future plans.

DIMENSION	2025 EVIDENCE	INSTITUTIONAL CONTRIBUTION
Consumption monitoring	25,885 m^3 recorded; 12 monthly values	Measurement and accountable resource oversight
Water-efficient infrastructure	74 dual-flush cisterns; 120 pressure-reducing fittings; 12 pedal taps; 13 efficient washers	Equipment-based demand management
Rainwater and landscape	Established rainwater-harvesting programme; sustainable planting and irrigation approach	Diversifying water sources and conserving moisture
Sanitation	Campus wastewater collection and local treatment arrangements	Pollution-prevention responsibilities
Research	Three 2025 journal articles and ongoing Kızılırmak research	Evidence for river, ecosystem and aquifer management
Awareness	Dated water-learning events and campus information boards	Conservation knowledge and engagement
Longer-term governance	Preparatory work in 2025; policy and target plan published August 2026	Transition to measurable multi-year planning

Although the overall water-use total **increased between 2024 and 2025**, we strengthened the foundations for improved resource performance through **measured monitoring**, **water-efficient infrastructure**, **research outputs** and **environmental education**. Our next phase will connect these activities to more closely measured operational outcomes.

LOOKING AHEAD

A more resilient water future

Our 2025 work creates a practical foundation for deeper measurement, improvement and cooperation.

We will strengthen the relationship between annual consumption, campus-level demand and verified equipment performance, building on our existing resource-monitoring system. Targeted leakage checks, facilities maintenance and progressive retrofit decisions will remain important parts of managing water use.

We will also expand the use of suitable **rainwater harvesting**, **drought-aware planting** and future **greywater recovery** where safe and technically appropriate, while evaluating these systems using measured quantities rather than assumptions. Our formal policy and targets published in **August 2026** provide a roadmap for this work beyond the present reporting period.

In research and public engagement, we will continue supporting regional **water-quality monitoring**, **aquatic biodiversity studies** and **groundwater governance research**, linking scientific understanding with the needs of local communities and environmental resilience.

Connection to the Sustainable Development Goals

Our primary contribution is to **SDG 6 – Clean Water and Sanitation**, through measured water use, conservation infrastructure, sanitation responsibilities, watershed research and education. We regard these as interconnected elements of water stewardship.

Connections with other development goals

SDG 3 – Good Health and Well-being: We support safe drinking-water access, sanitation and environmental health through water management and responsible campus services.

SDG 4 – Quality Education: We integrate water awareness, environmental learning and freshwater research into student education and public engagement.

SDG 7 – Affordable and Clean Energy: We consider efficient pumping, water infrastructure and the resource requirements of sustainable campus operation alongside energy management.

SDG 11 – Sustainable Cities and Communities: We support water-sensitive landscapes, resilient campus infrastructure and responsible resource use in the Cappadocia region.

SDG 12 – Responsible Consumption and Production: We encourage responsible water demand, practical water-saving equipment and continued monitoring of resource consumption.

SDG 13 – Climate Action: We connect water conservation, drought-aware planning and freshwater ecosystem knowledge with the priorities of our **October 2024 Climate Action Policy**.

SDG 14 – Life Below Water and SDG 15 – Life on Land: Our freshwater biomonitoring and river-quality research contribute knowledge about aquatic life, wetland health and biodiversity.

SDG 17 – Partnerships for the Goals: We work with local institutions and academic collaborators to advance water research, environmental learning and responsible resource management.

Our 2025 perspective

We are building a water stewardship programme that combines **transparent measurement**, **operational improvements**, **scientific research** and **shared environmental responsibility**. By reporting both accomplishments and areas requiring further progress, we establish a stronger foundation for protecting freshwater resources and improving their use across our University and the communities we serve.