

## **WATER ENVIRONMENT FEDERATION**

**Title: Artificial Intelligence Position Statement**

**Date of Approval: March 2, 2026 Expiration Date: March 2, 2029 (reviewed annually)**

### **BACKGROUND**

Artificial Intelligence (AI), defined as the ability of machines to simulate human intelligence, encompasses technologies such as machine learning, natural language processing, robotics, and computer vision. AI has reshaped industries, offering transformative potential to enhance productivity, drive innovation, and tackle complex global challenges, including those related to water sustainability. By leveraging AI, the sector can optimize water resource management, improve forecasting for water demand, flood, and drought conditions, improve treatment technology effectiveness, assist worker productivity and efficiency, and ensure efficient water distribution and conservation efforts. However, as AI technology rapidly expands and is poised to revolutionize innovation across all sectors, pressing concerns arise around ethical implications, social and environmental impacts, accountability, workforce, bias, and safety, necessitating comprehensive policy evaluation and guidance.

AI technologies can influence water resources and water management in meaningful and challenging ways, and these considerations are important to recognize as the field grows. The infrastructure that supports advanced AI, such as data centers, cloud platforms, and high-performance computing, can contribute to increased water and energy needs, particularly for cooling and power generation. As communities plan for future water use, incorporating these emerging demands can help ensure balanced and sustainable resource management. By integrating water-aware design practices and supportive policies, it is possible to advance AI innovations while also maintaining strong community resilience and responsible environmental stewardship.

The Water Environment Federation (WEF) recognizes the critical importance of addressing AI's opportunities and challenges to ensure its responsible application for societal benefit. This includes aligning AI-driven innovations with global efforts to safeguard vital water resources, in line with WEF's mission and values.

### **POSITION**

Recognizing both the significant potential and the substantial uncertainties surrounding the future of AI in the water sector, WEF, in leading the effort to advance AI in the water sector, supports the following actions towards an effective, efficient, and ethical understanding of AI technology. This position acknowledges that there remains

considerable uncertainty regarding how AI may evolve. In light of these unknowns, WEF emphasizes the need for adaptive governance, transparency, and precautionary, systems-based approaches that allow innovation to proceed while safeguarding utilities, communities, and the environment against unintended consequences.

### **Strategic Use of AI for Water Challenges**

- **Harness AI** to address critical water issues while safeguarding resources for communities and future economies.
- **Explore AI applications** with a focus on maximizing community resources and business value in the water sector.

### **Workforce Empowerment & Collaboration**

- **Support the workforce** by using AI as one of the tools to augment workforce capability and inspire creativity to foster shared purpose around water.
- **Build peer networks** to facilitate information sharing and sector-wide engagement.

### **Knowledge Advancement & Community Engagement**

- **Advance understanding** of the water-data nexus through volunteer communities.
- **Continue exploring** uses for both general and advanced AI and their applications for water.
- **Equip utilities and communities** with the knowledge and guidance needed to understand and plan for the water demands of AI.

### **Ethical and Responsible AI Implementation**

- **Develop ethical guidelines** for AI use in partnership with others.
- **Ensure human-in-the-loop controls** for AI-based solutions.
- **Promote responsible environmental stewardship in the adoption of AI** to support a net benefit to water security and affordability.
- **Respect intellectual property and attribution** in AI development and deployment.

### **Accessibility and Equity**

- **Identify and address barriers** to AI adoption, especially for small and resource-limited utilities.

## **Partnerships and Global Collaboration**

- **Promote alliances and partnerships** to share global AI-driven water solutions.
- **Connect the water community** with AI experts and best practices to foster collaboration.

## **Best Practices and Standards**

- **Identify, develop, and advance AI best practices and standards** for safe, secure, and effective implementation across the water sector.
- **Support the development** of best practices and guidance to evaluate the impacts of AI on communities and the environment and reduce, reuse, and optimize water usage.

## **ALIGNMENT WITH WEF'S MISSION AND CRITICAL OBJECTIVES**

Since 1928, it has been the mission of WEF and its members to protect public health and the environment. This position statement is consistent with our mission and the following goals and critical objectives:

- Attract and develop a diverse and passionate water workforce
- Cultivate a purpose-driven community to sustainably solve water challenges for all
- Lead the transformation to the Circular Water Economy