



October 19, 2023

Ms. Jainey Kumar Bavishi
Assistant Secretary for Oceans and Atmosphere
National Oceanic and Atmospheric Administration (NOAA)
United States Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

Re: Request for Information on Equitable Delivery of Climate Services

Delivered electronically

Dear Assistant Secretary Bavishi:

The Water Utility Climate Alliance (WUCA) and the Association of Metropolitan Water Agencies (AMWA) welcome the opportunity to comment on the request for information on the equitable delivery of climate services. WUCA, formed in 2008 to provide leadership and collaboration on climate change issues affecting the country's water agencies, comprises twelve of the nation's largest water providers, supplying drinking water to more than 50 million people in the United States. WUCA has been a leader in climate adaptation in the water sector and, more broadly, for over 15 years, engaging with federal agencies like NOAA and EPA as well as research institutions, climate service providers, and adaptation professionals. AMWA represents the largest metropolitan, publicly owned drinking water systems in the nation, and collectively, its members serve more than 160 million people. As local planners and decision-makers on water resources, water utilities have a critical need for the climate services NOAA provides. WUCA and AMWA are, therefore, pleased to provide the following feedback for NOAA's consideration as it evaluates its climate services and develops an action plan to create more equitable and inclusive design, production, and delivery of climate services for users of all disciplines and backgrounds.

Background

As advocates and practitioners for climate adaptation in the water sector, our organizations are poised to provide thoughtful feedback on the equitable delivery of NOAA's climate services. For example, WUCA developed the initial concept for "actionable science" in 2009, defining it as "data, analysis, and forecasts that are sufficiently predictive, accepted, and understandable to support decision-making, including capital investment decision-making."¹ WUCA pioneered several efforts and reports on actionable science in practice¹ and co-production of climate change

¹ Water Utility Climate Alliance (WUCA). 2009. Options for Improving Climate Modeling to Assist Water Utility Planning for Climate Change. <https://www.wucaonline.org/assets/pdf/pubs-whitepaper-120909.pdf>

information², which WUCA has shared throughout the water sector with partners like AMWA. WUCA has a long-term vision of establishing “climate-resilient water utilities supporting thriving communities,” and has identified equity as a priority in its five-year Strategic Plan. WUCA practitioners are some of the nation’s most sophisticated users of NOAA’s climate services, and AMWA utilities represent the nation’s largest publicly owned drinking water utilities. We are pleased to provide input on the hurdles our utilities face when using NOAA’s climate services, knowing that any issues our utilities face are exacerbated for users in smaller, lesser-funded agencies.

Through our climate and planning practitioners’ experience and knowledge sharing, WUCA and AMWA have identified challenges in equitable climate services delivery by various federal agencies, including NOAA. Our comments outline three areas of challenges.

I. Enhancing Accessibility of NOAA Climate Services

Underserved communities, smaller water agencies, and local governments often do not have sufficient resources to fund robust (or even any) climate resilience or climate services programs, enterprises, or projects. There is a wide array of climate data and toolkits available through different federal agencies, academic institutions, non-governmental organizations, and more, and it is often difficult for users to determine what science and data they should use for specific planning or action purposes. Providing more streamlined or centralized access to climate data from multiple federal agencies and research institutions would help reduce the resource burden on communities in accessing this data.

For example, NOAA, along with partner agencies, could work to develop a clearinghouse of different climate data, their best uses, limitations, and tools. This usefulness of these different services could be augmented through improved coordination between various federal agencies providing climate services as well. A collaborative clearinghouse with definitions and explanations of different federal climate services would alleviate the burden of deciphering where to find and how to use different climate datasets, reducing accessibility challenges.

In all of its climate services, NOAA should focus on promoting actionable science, which is essential for decision-making in climate adaptation. NOAA could focus on producing data, analysis, and forecasts that are easily understandable and adoptable by decision-makers in public utilities and community leaders. For instance, NOAA Climate Adaptation Partnerships (CAP), formerly known as Regional Integrated Sciences and Assessments (RISA), are great examples of NOAA engaging in coproduction of climate adaptation science, as CAP/RISA teams engage in a variety of applied and co-developed research and engagement with communities. WUCA regularly engages with these groups and encourages the teams to work towards following actionable science in the products. This interaction ensures that the climate services provided are practical and directly

² Vogel, J., McNie, E., & Behar, D. (2016). Co-producing actionable science for water utilities. *Climate Services*, 2, 30-40. <https://doi.org/10.1016/j.cliser.2016.06.003>

support decision-making processes, including capital investment and community adaptation decisions. Clear guidelines and frequently asked questions available in tandem with different climate datasets and tools can help make complex climate data more accessible to those without technical expertise.

Furthermore, the cost of certain climate data can be prohibitive, as can the data expertise and computer technology needed to access big data. For example, access to the current CMIP6 projections from the IPCC is limited to universities, corporations, and those entities with sufficient capability to download and manage terabytes of data.

NOAA can play a role by providing free and easier-to-access CMIP6 projections. The agency could develop a platform that summarizes CMIP6 projections for different regions or localities so that smaller communities can easily apply the most current generation of climate model projections. This regional work could be done in coordination with the NOAA CAP program, formerly known as RISA. NOAA could also develop a how-to-use guide or FAQ to simplify understanding of how to use CMIP6 or other similar climate data so that it's more accessible to those without technical training in climate data. As practitioners in the water sector are often applying Global Climate Model (GCM) projections at highly localized scales, NOAA could provide easy-to-understand inventories and comparisons of available statistically and dynamically downscaled datasets by region.

II. Capacity Building, Education and Technical Assistance

Capacity to undertake climate adaptation planning is often a major limitation that WUCA has observed within its own agencies as well as partners, such as smaller communities or water systems. NOAA could develop capacity-building trainings or programs to support smaller community organizations or entities in their effort to utilize the science for adaptation and resilience planning.

U.S. EPA's Creating Resilient Water Utilities (CRWU) program, its tools, and the technical assistance opportunities it provides are great examples of the types of free programs that make climate services actionable and accessible. EPA's CRWU initiative provides drinking water, wastewater, and stormwater (water sector) utilities with practical tools, training, and technical assistance to increase system resilience to climate change impacts. The initiative helps promote a clear understanding of climate data and helps water sector utilities identify potential adaptation strategies, implementation options, and infrastructure financing.

NOAA could learn more from how CRWU has developed tools, such as its Resilient Strategies Guide and Climate Resilience Evaluation and Awareness Tool (CREAT), data maps, training and financing information, and technical assistance that benefit end-users of all sizes and resources. For example, CREAT assists water sector utilities in assessing climate-related risks to utility assets and operations. CRWU also offers utilities of all sizes risk assessment technical assistance for

different types of climate risks.³ Several smaller water systems have successfully engaged with the CRWU program to do climate adaptation planning that they otherwise would not have had the resources or expertise to complete; simultaneously, larger systems have also benefited from CRWU's free climate adaptation and risk planning, with utilities able to dedicate more staff time and resources to projects CRWU helped identify as priorities. While the CRWU initiative and tools aid water utilities, NOAA can look to the program as inspiration for developing services for various end-users.

III. Community Outreach, Engagement, and Co-Production of Climate Services

WUCA has engaged in several co-production exercises with researchers and climate service providers. As such, our alliance is a major advocate for collaborating with and co-producing scientific tools and data with users to better inform their decision-making around resilience and adaptation by understanding their most urgent questions and challenges.

NOAA can engage with communities to co-design climate services that advance climate equity and environmental justice goals. We recommend speaking directly with indigenous, low-income, and underserved communities and supporting non-profits to understand what climate services these communities need, what questions need answering, and helping them build ownership of climate tools and practices.

As NOAA looks to create more equitable and inclusive design, production, and delivery of climate services, the agency should look to collaborate with different federal agencies creating and disseminating climate data, tools, and other services. The Department of Interior through the U.S. Geological Survey (USGS), FEMA, and EPA house various climate datasets and tools that can benefit end users of all sizes and resources. Many times, practitioners are overwhelmed by the number of climate datasets and tools and how to use them. NOAA, along with other federal agencies, proactively engaging with climate data users by major infrastructure sector could ensure that federal services are complementary, not redundant or confusing, for end users.

Finally, NOAA can work with associations and other sectoral representative groups to help increase knowledge of, access to, and explanations for how to use their climate delivery services. Various water utility associations and nonprofits, like WUCA and AMWA, often partner with federal agencies to host webinars, trainings, and other learning events for their members. The agency could also consider working with other federal agencies to host these kinds of outreach and training events when appropriate.

³ EPA CRWU. (2023). Adaptation Case Studies for Water Utilities.
<https://storymaps.arcgis.com/stories/1b5126bb60bd495a9ff9b05a732b6e5b>

Ms. Jainey Kumar Bavishi

October 19, 2023

Page 5

Conclusion

WUCA and AMWA sincerely thank NOAA for the opportunity to engage and provide feedback on its climate services as it develops an Action Plan for embedding equity in NOAA's climate service design, production, and delivery. We appreciate NOAA's commitment to proactively address the impacts of climate change on water resources, particularly as they impact underserved communities, and encourage continued engagement with our organizations. We welcome an opportunity to continue this conversation. If you have any questions, please contact Jessica Evans (evans@amwa.net), AMWA's Manager of Government Affairs and Sustainability Policy.

Sincerely,



Gabriel Solmer
Executive Chair, Water Utility Climate
Alliance
Director, Portland Water Bureau



Thomas Dobbins
Association of Metropolitan Water Agencies
Chief Executive Officer

cc: Ella Clarke, NOAA