



The Honorable Rear Admiral Timothy Gallaudet
Assistant Secretary of Commerce for Oceans and Atmosphere
U.S. Department of Commerce
1401 Constitution Avenue, N.W., Room 51030
Washington, DC 20230

Via email: timothy.gallaudet@noaa.gov

August 10, 2018

Re: Comments on Outline for *Subseasonal and Seasonal Forecasting Innovation: Plans for the Twenty-First Century*.

Dear Assistant Secretary Gallaudet:

The Association of Metropolitan Agencies (AMWA) is an organization representing the largest publicly owned drinking water utilities in the United States. The National Oceanic and Atmospheric Administration's (NOAA) forecasting tools, which are used by water utilities across the country, influence our members' approaches to daily operations and risk assessment. NOAA has requested comment on the outline of its upcoming report to Congress: *Subseasonal and Seasonal Forecasting Innovation: Plans for the Twenty-First Century*. AMWA applauds NOAA's efforts to improve the accuracy and utility of subseasonal-to-seasonal (S2S) forecasting.

S2S forecasting is particularly relevant to AMWA member utilities that contend with the risks from extreme precipitation from atmospheric rivers and that use these forecasts to inform daily and seasonal water supply operations and planning. For example, acting on accurate forecasts of severe rainfall can result in utilities releasing water in order to prevent overtopping of reservoirs and the accompanying threat to public safety. If forecasting information is inaccurate, utilities may be unable to refill their reservoirs and offset such preventative measures. Water utilities require the most accurate forecasts possible to balance multiple objectives for water quantity and quality and to meet levels of service for customers. Therefore, with these myriad concerns in mind, AMWA appreciates NOAA's expressed goals of improving the skill of S2S forecasts and improving their value for stakeholders.

NOAA specifically notes that one of its key goals for this report is to enhance the value of S2S products for stakeholders. The report names "deep-relationship core partners", but these partners are not specifically identified. It would seem that water utilities that rely on these forecasts and associations that represent their interests, including AMWA, qualify as "core partners." As such, NOAA should engage

BOARD OF DIRECTORS

PRESIDENT

Mac Underwood
Birmingham Water Works
Board

VICE PRESIDENT

Steve Schneider
Saint Paul Regional Water
Services

TREASURER

Angela Licata
New York City DEP

SECRETARY

John Entsminger
Las Vegas Valley Water District

Jerry Brown
Contra Costa Water District

John P. Sullivan, Jr.
Boston Water and Sewer
Commission

Rudolph Chow
Baltimore City Department of
Public Works

Robert L. Davis
Cleveland Department of Public
Utilities

Kevin Gertig
Fort Collins Utilities

Julia J. Hunt
Trinity River Authority of Texas

Robert Hunter
Municipal Water District of
Orange County

Carrie Lewis
Portland Water District

James S. Lochhead
Denver Water Department

Ron Lovan
Northern Kentucky Water
District

Sue McCormick
Great Lakes Water Authority

J. Brett Jokela
Anchorage Water &
Wastewater Utility

Charles M. Murray
Fairfax Water

William Stowe
Des Moines Water Works

Kathryn Sorensen
Phoenix Water Services

Jeffrey Szabo
Suffolk County Water Authority

Douglas Yoder
Miami-Dade Water and Sewer
Department

**CHIEF EXECUTIVE
OFFICER**
Diane VanDe Hei

with them early and often to identify their needs. Furthermore, NOAA should engage water utilities about how to develop or improve key products (such as forecasts) and services (such as approaches the program offices use to disseminate the information). One example of how NOAA has engaged utility partners in the past is in developing the Water Resources Dashboard, which is now part of the Climate Resilience Toolkit (<https://toolkit.climate.gov/topics/water/water-resources-dashboard>). To develop this tool, NOAA's Climate Program Office first engaged several water associations and others to understand the key products most important to these stakeholders and then developed the dashboard based on this input.

In order to enhance the value of NOAA products for its core partners, NOAA should begin by going to those partners to identify the information and product needs. In addition, NOAA should work with the non-federal research community to leverage research being done to help provide decision relevant forecasting for users of S2S data. Due to the shortfalls in federal support for S2S forecasting, several water utilities currently work with researchers outside of the federal government to fine-tune products based on the forecasts NOAA provides so it is important that the accuracy of these forecasts continues to be improved.

While AMWA recognizes that an outline is understandably less thorough than a full report, there are many items not addressed in the outline, which must be included in the final report describing the S2S program. First and foremost, the final report or summary report should be written for non-scientists, and it is important for NOAA to provide definitions for scientific terms such as forecast skill. For example, the final report should explain how skill is evaluated, how current skill targets are calculated and the significance of the skill scores listed in the report.

Furthermore, AMWA urges that Section 1.2 of the full report address NOAA's skill in forecasting precipitation levels as part of the agency's Extended Range Forecast and the U.S. Hazards Outlook. While Section 1.1 describes local jurisdictions' efforts to "prepare for and reduce risk from meteorological events well in advance," NOAA's current skill level is omitted for both products, though both are specifically mentioned in Section 2.1. The period covered by these forecasts (days 8 to 14) is particularly important to AMWA members, as many base their immediate preparedness and response actions on S2S forecast data. AMWA members depend on S2S data to balance risks to the public against their obligation to provide sufficient quantities of safe, drinkable water to the individuals they serve. Given the importance of utilities' public safety and public health obligations, it is essential that forecasts over days 8 to 14 be considered in any discussion about the accuracy and value of S2S forecasting.

Finally, AMWA requests that NOAA's final S2S report specify the tools, funding sources or techniques that NOAA anticipates being necessary to improve its forecast skill. Due to the importance of S2S forecasting, and its implications for water utility operations, AMWA thanks NOAA for the opportunity to

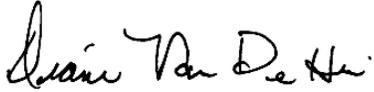
The Honorable Rear Admiral Timothy Gallaudet

August 10, 2018

Page 3

provide comment on such an important document. If you have any questions, please contact Erica Brown (brown@amwa.net) AMWA's Chief Strategy and Sustainability Officer.

Sincerely,

A handwritten signature in black ink, appearing to read "Diane VanDe Hei". The signature is fluid and cursive, with the first name "Diane" being the most prominent.

Diane VanDe Hei

Chief Executive Officer

Cc: Timothy Schneider, NWS Office of Science and Technology Innovation
Peter Colohan, NWS Office of Water Prediction