CLIMATE ADAPTATION IMPLEMENTATION PLAN

2024 Addendum

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EPA Region 3 FY24 Climate Adaptation Implementation Plan Addendum

In 2022 EPA Region 3 published a Climate Adaptation Implementation Plan (CAIP) that built from the original plan published in 2014. The 2022 CAIP was subsequently expanded and refined in 2024, and this addendum highlights some of the key features of that update.

New Priority Actions

The following is a list of new Priority Actions that have been added to the updated Region 3 CAIP. The list includes Priority Actions that were developed for FY24, including some that began in late FY23, as well as actions that were included in the 2022 CAIP and have since been promoted to Priority Actions.

Consider climate vulnerabilities at Superfund sites.

Continue to implement and refine the R3 SEMD Remedial Climate Considerations Guidelines to evaluate and document potential climate vulnerabilities throughout the Superfund process, using tools such as the EPA Region 3 Climate National Priorities List (NPL) Flooding and Vulnerability Tool and OLEM Climate Vulnerability Assessments Protocol (upon availability). The expected outcome of this priority Action that SEMD staff will be better able to incorporate climate considerations into their work.

Finalize the Region 3 Disaster Mitigation Implementation Strategy.

The Region 3 Disaster Mitigation Implementation Strategy describes the regional roles and responsibilities in carrying out disaster mitigation through the Promote/Incentivize/Enforce framework.

Update the Sea-level-rise Exploration and Assessment (SEA) decision support tool.

The Water Division, in partnership with the Laboratory Services and Applied Science Division and the Office of Research and Development, will develop a sea-level rise data product that will allow EPA Region 3 programs to assess the threat of sea-level rise quickly and easily into specific projects and for specific locations. The expected outcome of this Priority Action is that sea-level data will be more easily incorporated into regional decision-making processes.

Convene a "Watershed Partnerships Workshop" to address climate adaptation at the watershed scale.

In collaboration with the Delaware River Basin Commission, the Water Division will facilitate a workshop in FY25 to support innovative efforts to incorporate climate adaptation into combined water quality and quantity planning at the watershed scale. Participants will include partners from across the Delaware River Watershed with a focus and/or interest in this topic (Tribal, state and local entities and engineers, foresters, conservationists, floodplain managers, utilities, and watershed groups).

Engage Superfund communities on climate.

Develop a standard practice to engage communities affected by Superfund sites and related activities to address relevant climate concerns (e.g., through a Site's Community Involvement Plan (CIP), Five-Year Review interviews).

Partner with the Regional Science Council to host climate-focused webinars for both internal and external audiences.

Climate focused webinars, presentations and special events, partnering with the highly successful recurring Regional Science Council Presents series; events will serve as an educational and capacity-building resource on climate for the technical needs of the regional workforce. The expected outcome of this Priority Action that EPA Region 3 staff will be better able to incorporate climate considerations into their work.

Convene a quarterly meeting with Region 3 jurisdictions to coordinate across the Mid-Atlantic on climate issues.

Convene a high-level, quarterly meeting with EPA Region 3 jurisdictions (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia) and selected regional partners to coordinate on climate-related topics. The expected outcome of this Priority Action is a more coordinated approach to climate adaptation across the region.

Resilience capacity building in Environmental Justice/Social Justice Communities for climate change planning.

Many environmental/social/climate justice communities in Region 3 lack the resilience to offset expected climate changes, including changes in natural hazards. Few of these communities have specific climate change plans to develop the strategies necessary to build their resilience capacity to these expected long-term changes and events.

This research project will directly contribute to two critical EPA Region 3 priorities: a more comprehensive implementation of climate change adaptation and resilience and the development of a Standard Operating Procedure (SOP) for a multi-media EPA process to address environmental injustices in communities of concern. The project results will provide a proof-of-concept approach for climate change planning. The expected outcome of this Priority Action is that two vulnerable communities will improve their climate resilience.

Developing Next-Generation Intensity-Duration-Frequency (NGIDF) Curve Data for EPA Region 3.

The Chesapeake Bay Program has commissioned and is operationalizing a webtool to mitigate climate-change-induced impacts in the Chesapeake Bay Watershed (CBW) using intensity-duration-frequency (IDF) curves developed using projected future extreme precipitation data; however, the limited geographical coverage inhibits its broader uptake by EPA Region 3 environmental programs.

EPA Region 3 will work with ORD and other relevant partners to generate a Next-Generation IDF (NGIDF) dataset to cover all of Region 3. The project will incorporate data currently being developed by ORD and newer methodological advances that allow for more accurate characterization of precipitation extremes.

As a follow on to this work, the resulting data could also be incorporated into the EPA Region 3 Climate National Priorities List (NPL) Flood/Climate Vulnerability Mapping Tool and other EPA tools, including EnviroAtlas, to provide additional detail about climate vulnerabilities at NPL sites.

Increase regional and national collaboration to ensure consistency among vulnerability assessment mapping tools and approaches.

Increase consistency across regional mapping tools and better use limited resources to identify vulnerabilities among clean-up/hazardous sites and other topic areas identified through the Climate Adaptation Planning Subgroup of the EPA GIS Workgroup. The expected outcome of this Priority Action is a more coordinated approach to climate-related tool development across the agency.

Create an annual engagement plan and a toolkit of communication and engagement resources.

Create a toolkit of communication and engagement resources to make the Climate Adaptation and Implementation Plan and other EPA climate resources and information more accessible and beneficial to communities in the region. Resources should be developed using the methods and modes of communication that are most effective based on study of the audience and engagement goals. Resources could include talking points, approved slide decks, science resources, fact sheets, decision support tools, maps, case studies, etc.

The divisional offices have identified general and specific stakeholder groups that the Region will engage and partner with to implement the priority actions identified in the program specific chapters.

Advance understanding of and engage with partners on the environmental impacts of wasted food and the beneficial uses of compost application to soil.

Develop and cultivate partnerships with states, tribes, territories, and communities in increasing their own adaptive capacity and resilience to climate change impacts through wasted food reduction practices and compost application. The expected outcome of this Priority Action is that progress will be made towards implementing EPA's circular economy goals.

Pilot project to streamline interagency coordination on federally supported climate resilience efforts in selected Region 3 communities.

Addressing Climate resilience in the Baltimore metro area will require a high level of interagency coordination. Approval, funding and implementation of infrastructure projects involves partners across federal, state, and local government. EPA is engaging with communities to understand concerns, challenges, and potential solutions. EPA will develop a strategy to streamline joint review of proposed projects. The expected outcomes of this Priority Action are that interagency coordination on climate resilience will be strengthened and that the Baltimore metro area will see the benefits of that coordination.

Understanding carbon storage/sequestration implications of local decision-making.

This ROAR project will investigate the best methods to estimate and to help establish a baseline for carbon storage and sequestration, and to apply those methods to create geospatial data indicating total carbon stored, carbon stored in above and below ground living biomass, and carbon stored in soil in forested and wetland ecosystems across R3. R3 is particularly interested in considering carbon storage and sequestration within their NEPA and CWA 404 reviews but understanding carbon storage and sequestration is important everywhere. The expected outcome of this Priority Action is that the region will have a better understanding of carbon storage and sequestration potential using quantified estimates.

Create a framework for strategic, multi-scale planning for coastal wetland restoration.

CBPO and LSASD will bring together appropriate stakeholders to develop:

- *A transferrable framework for planning and siting large-scale coastal wetland restoration and enhancement projects that utilizes existing tools and priorities and incorporates various marsh habitat benefits, vulnerability, resilience considerations, ecological tipping points, , etc.*
- *An outreach plan for communities conveying the local benefits of coastal wetland restoration, and to collaborate on the framework/vision.*
- *A monitoring protocol for coastal wetland restoration, enhancement, and protection projects, focusing on the Chesapeake Bay, that indicates which aspects of coastal wetlands should be evaluated post-project construction, given project goals and the environmental conditions.*

Design a pilot project that incorporates these elements.

Partnerships and grants adaptation review.

Evaluate ongoing and upcoming grants and partnership initiatives for adaptation benefits and identify opportunities for increasing access or leveraging resources. This includes funds being disseminated under the Bipartisan Infrastructure Law, The American Rescue Plan, and the Inflation Reduction Act. The

expected outcome of this Priority Action is a more robust understanding of the scope of existing adaptation efforts, resources needs and opportunities identified.

Innovative advancements in lake and wetland monitoring with imagery and machine learning modeling.

New cost-effective approaches for monitoring are needed to understand the impacts of changing thermal and hydrologic conditions on ecosystems as well as to identify specific habitats and regions that may be resistant or more susceptible to climate change. This project will help states, tribes, and others by furthering a low-cost and user-friendly alternative for lake and wetland monitoring with the use of continuous imagery from trail cameras and machine learning modeling. A novel human-assisted ranking-based model approach will use images for lakes (% ice cover, water level, leaf on/off, algal blooms); for wetlands (% ice cover, depth, leaf on/off, bloom dates). The expected outcome of this Priority Action is that climate threats to lakes and wetlands will be better quantified for future decision making.

Develop a fine-scale stream network temperature model for Chesapeake Bay Watershed.

Develop a fine-resolution statistical spatial stream network (SSN) temperature model in EPA's cloud Data Management and Analytics Platform (DMAP) platform using shade, air temperature, water budget components from the mechanistic CB Watershed Model, other landscape predictors, and previously compiled continuous temperature monitoring data.

Expand the Wetland Regional Monitoring Program.

State and tribal biological assessment programs will need information to account for long-term changes in the reference conditions of wetlands. The Wetlands Regional Monitoring Network (WRMN) program can help by: 1) Expanding progress upon a previous RARE project by developing additional reference quality wetlands for continuous monitoring of vegetation as well as soil condition. 2) Filling a data gap that will allow us to understand how baseline conditions of wetlands are shifting over time across a broad geographic and climate range.

Provide Training for ECAD and ORC to Incorporate Climate Adaptation Considerations in Enforcement Cases.

In consultation with HQ Office of Enforcement and Compliance Assurance, compile resources and provide trainings to ECAD and ORC on incorporating climate change into regional enforcement cases.

Integration of Climate Adaptation into BIL and IRA Investments

Region 3 has committed to integrating climate adaptation into BIL and IRA investments through the inclusion of Priority Actions in the CAIP and participation in the Office of Policy Workgroup, Resilient Infrastructure Subgroup on Climate (RISC).

One of the Priority Actions from the original 2022 CAIP is entitled, "Support climate resilient infrastructure," and includes 1) providing technical assistance and training to water and wastewater systems focused on capacity development, system optimization, climate resilience and operator certification; 2) providing climate tools to states, local governments and water and wastewater systems to help mainstream adaptation and mitigation and encourage investments in resilient infrastructure; and 3) Encouraging states to prioritize funding and technical assistance to disadvantaged communities that may be disproportionately impacted by climate change.

The 2024 update to the CAIP includes a new Priority Action from the Region 3 Air and Radiation Division, "Partnerships and grants adaptation review," which aims to "evaluate ongoing and upcoming grants and partnership initiatives for adaptation benefits and identify opportunities for increasing access or

leveraging resources. This includes funds being disseminated under the Bipartisan Infrastructure Law, The American Rescue Plan, and the Inflation Reduction Act."

The Resilient Infrastructure Subgroup on Climate (RISC) was established to help meet EPA's long-term commitment to modernize all its financial assistance programs to encourage climate-resilient investments, where appropriate. RISC performs activities to support EPA's National Program and Regional Offices with integrating adaptation and resilience into their financial assistance processes. RISC is also taking steps to ensure EPA's tools, training, data, and technical assistance programs are accessible to funding applicants and recipients so they can make climate-resilient investments. Four Region 3 employees participate in this workgroup, two of whom have leadership roles in RISC workstreams.

Integration of Indigenous Knowledge into Projects and Decisions

One of the Priority Actions from the original 2022 CAIP is entitled, "Engage Region 3 Tribes in a meaningful dialogue on climate change adaptation and resilience." It included hosting a Tribal Climate Workshop in 2023 as well as promoting the use of GAP grants to support tribal climate needs. Since publication of the 2022 plan, engagement with tribal partners has expanded to include the Tribal Climate Initiative, which is a formal process designed to connect climate needs and goals identified by Tribes within Region 3 to the resources and programs that could help meet those needs and goals. It includes cataloging and tracking resource requests through regular meetings with tribal environmental representatives. Region 3 tribal partners have the option of including Indigenous Knowledge into the identification of their climate resilience goals.

Increasing Climate Literacy of Staff and External Partners

Chapter 11 of the 2024 Updated Region 3 CAIP is entitled, "Developing Climate Leaders for Tomorrow." The chapter details the variety of channels available to staff to build knowledge about how climate change impacts EPA's mission, including passive resources available on the EPA website and through the Region 3 library as well as mandatory/non-mandatory training including Office of Policy's Climate Conversations series; leadership messaging; the Region's electronic bulletin board ("R3 in the Know"); social media; in-office signage; computer desktop "signage;" etc.

One innovative effort to educate the Region 3 workforce is known as the R3 Climate Messenger series. Twice a month Region 3 climate work is highlighted in a message from the Deputy Regional Administrator and echoed in "R3 in the Know." The messages alternate between program accomplishments and senior management leadership messages that enable Region 3 staff to answer the question, "What is Region 3 doing to address climate change and build climate resilience?"

Chapter 11 also includes three actions related to training: 1) "Assess resources and curricula for capacity development," 2) "Develop a recruitment and retention strategy to build climate expertise and leadership in the EPA Region 3 workforce," and 3) "Build external capacity." Furthermore, a new Priority Action, "Partner with the Regional Science Council to host climate-focused webinars for both internal and external audiences," has been added to the CAIP Update. The action partners with the highly popular "Regional Science Council Presents" presentation series to promote climate-focused webinars and special events; events will serve as an educational and capacity-building resource on climate for the technical needs of the regional workforce.