National Archives and Records Administration

CLIMATE ACTION PLAN

September 2021

NATIONAL ARCHIVES

Table of Contents

I. POLICY STATEMENT 3
II. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION 4
III. FIVE PRIORITY ADAPTATION ACTIONS 6
Action 1: Develop Facility-Level Climate Risk Assessments 6
Action 2: Strengthen NARA's Climate Resilience through Digital Operations 8
Action 3: Climate Resilience as Mission Resilience 11
Action 4: Strengthen NARA's Climate Resilience by Leveraging Cloud-Based Solutions 13
Action 5: Improve NARA's Climate Resilience through Increased Facility Readiness 15
IV. Known Vulnerabilities and Deficiencies 17
Need to Update Climate Risk Assessments 17
Enhancing Workforce Climate Literacy 17
Agency-Wide Actions to Enhance Climate Resilience 18
Agency Actions to Ensure a Climate-Ready Supply of Products and Services 18
Establishing Better Metrics for Evaluating Climate Adaptation Performance 21
Appendix A. KEY TERMS AND ACRONYMS 22
Appendix B. RISK ASSESSMENT STEPS FOR SLR, FLOODING, AND DROUGHT 23
Appendix C. AGENCIES NARA COLLABORATES WITH ON CLIMATE 24

I. POLICY STATEMENT

NARA recognizes that climate change is one of the most significant issues impacting the long-term continuity of government. Several agency locations have experienced severe weather, or other events related to changing climate, including: sea-level rise, more frequent storm surges, floods and inundation, high wind events, and wildfires. These threats put operations, the agency mission and surrounding communities at greater risk. We are proactively incorporating climate action planning, based on best available science, and identifying our greatest vulnerabilities. Climate action planning is being incorporated into our policies and operations, ensuring that we keep climate adaptation planning in mind across all aspects of the agency, so we can rapidly adapt to changing climate, thus ensuring mission resilience. Further, NARA continues to reduce our greenhouse gas (GHG) emissions to help lessen impacts of future climate change.

Our Climate Action Plan (CAP) sets ambitious goals to strengthen NARA's climate adaptation actions, and aligns with agency mission goals. The Climate Adaptation Plan (CAP) emphasizes five priority actions for the agency. Those actions are to: 1) Develop Facility-Level Climate Risk Assessments, 2) Strengthen NARA's Climate Resilience through Digital Operations, 3) Make Climate Resilience part of Mission Resilience, 4) to Strengthen NARA's Climate Resilience by Leveraging Cloud-Based Solutions , and 5) Improve NARA's Climate Resilience through Increased Facility Readiness. Implementing this plan also delivers numerous co-benefits: including greenhouse gas emissions reductions, utility savings, overall better air quality, and reduced traffic congestion. These co-benefits will lead to an improved quality of life--especially for sensitive populations and vulnerable areas. Targeting travel and emissions from agency automobiles helps NARA contribute to environmental justice by reducing traffic in highly-congested, low air quality areas. NARA's digitization efforts and remote information actions are making information previously only available in paper form available to virtually anyone with internet access. Additionally, NARA pledges to use and acquire procured items that meet green environmental standards (low energy use and embodied carbon, reduced packaging, and end-of-life take back, waste and recycling programs). The CAP will provide a means to monitor and implement adaptation efforts, with steps to evaluate the plan as it progresses, and complementing carbon mitigation.

NARA remains committed to integrating climate information that reflects an understanding of global climate change (based on best available science) into its mission and programs via employee training and management functions. We will use this information when managing our procurement, real property, public lands and waters, and financial programs. As detailed in the CAP, this approach will lead to greater preparedness for, and resilience to, the climate crisis, while fully supporting those plan aspects that benefit the broader community.

Our climate change and adaptation efforts are executed under the oversight of the Executive for Business Support Services and managed by the Director, Facility and Property Management in his role as Climate Change Adaptation Officer and Chief Sustainability Officer.

DAVID S. FERRIERO
Archivist of the United States

II. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

NARA is an independent federal agency established in 1934 to identify, protect, preserve, and make available historically valuable federal government records. NARA manages the federal government's archives, administers a system of Presidential libraries, operates museums, conducts education and public programs, provides government-wide records management oversight, and temporarily stores records for other agencies. NARA publishes the Federal Register and administers grants through the National Historical Publications and Records Commission. NARA is responsible for the appropriate declassification of classified national security information, mediating Freedom of Information Act (FOIA) disputes, and overseeing and control of classified and unclassified information. In all, NARA owns 17 facilities and leases many other locations, primarily from GSA.

Our mission is to safeguard and provide public access to federal government records in our custody and control. This public access strengthens democracy by allowing Americans to claim their rights of citizenship, hold their government accountable, and understand their history so they can participate more effectively in their government. To ensure NARA's mission resilience, we must successfully adapt to changing climate conditions and prepare for severe events. This means facilities must protect the integrity of the information that NARA is tasked with preserving and protecting. Many documents are irreplaceable, so mission failure is not an option. Therefore, NARA must continually prepare for challenges and opportunities associated with climate change adaptation.

NARA continues to increase its understanding of the implications climate change has on its business practices, and is building a working knowledge to ensure future decisions consider climate change impacts and do not create further vulnerabilities or liabilities. This plan incorporates NARA's Directive 1571 and 36 CFR 1234 to protect holdings against short- and long-term risk. This plan also addresses and strengthens NARA's attempts to meet the OMB Scorecard, E.O. 14008, and LEED (Leadership in Energy and Environmental Design) requirements (at appropriate sites).

NARA will use both climate adaptation and mitigation strategies. NARA seeks to embrace the primacy of electronic information in all facets of our work and position NARA to lead accordingly. Our Strategic Plan[1] goals to "Make Access Happen," "Connect with Customers," "Maximize NARA's Value to the Nation," and "Build our Future through our People," depend on our ability to adapt to the challenges of a changing climate. To help enable our success in a changing environment, NARA has identified five priority adaptation actions outlined in this document. Those actions are:

1) Developing facility-level risk assessments to identify and proactively protect buildings, holdings and people, reducing potential climate change impacts. Preparing for climate change now will reduce costs later due to inaction or insufficient actions:

    - It is critical to establish clear, actionable data, specific to each location, their holdings, and localized climate impacts to enable clear definition of appropriate and feasible actions to respond to the specific risks and protect our assets.

[1] https://www.archives.gov/files/about/plans-reports/strategic-plan/2018/strategic-plan-2018-2022.pdf

2) Strengthening NARA's climate adaptation through digital operations, thus making operations more resilient to disruption through remote operation and seamless under severe weather events, difficult climate conditions or emergencies:

    - As NARA continues to embrace electronic information and digital operations, clearly identifying where adaptation is needed to preserve this capability and digital information. Further, this action is paramount to help shape future agency priorities.

3) Linking climate resilience with mission resilience helps create seamless operations and better customer service. This strategy has worked well during the COVID pandemic, as information flow (FOIA requests) is now readily available and faster, in spite of building closures:

    - Continuity of Operations has long focused on large-scale events that hinder government ability to operate. Expanding the approach to also support resilience ensures continuity during increasingly more frequent severe weather and other events, and helps ensure the agency's ability to fulfill its mission in the face of a changing climate.

4) Strengthening NARA's climate resilience by leveraging cloud-based solutions to be able to perform many building and information functions remotely:

    - Beyond embracing digital operations, NARA must examine risk from climate impacts on only locally supported management and information systems vs benefits from moving to more secure, multi-location sourcing via enterprise cloud-based solutions.

5) Strengthening NARA's climate resilience through increased facility readiness. This step is being addressed first through risk assessment, and then based on results of those assessments, prioritizing actions for future climate adaptation, resilience, and GHG mitigation strategies:

    - Some reductions to risk can be made through improvements to the facilities. Identifying specific actions needed at each location to adapt the local infrastructure to reducing risk is crucial to protect buildings, holdings, visitors, and staff.

III. FIVE PRIORITY ADAPTATION ACTIONS

Action 1: Develop Facility-Level Climate Risk Assessments

- **Action Intent:** NARA has completed regional-level risk assessments but lacks specific location/facility-level quantitative assessments. Climate risk assessments of individual facilities and their hosted collections are needed to help inform and ensure NARA makes informed decisions for each adaptation action.
- **Action Goal:** Identify facility-specific risks and vulnerabilities based on local conditions and anticipated climate impacts, and assess those risks for staff and visitors, buildings, holdings, agency mission, programs, and operations at each location. These assessments will provide the crucial data to help drive policy, strengthen programs and operational procedures, make timely facility repairs and improvements, and optimize investment priorities.
- **Agency Lead:** Facility and Property Management Division, Business Support Services (BF)
- **Risk or Opportunity**: Current climate risk assessments are focused on agency-wide issues informed by regional data. Local data is needed to reduce uncertainty at each location (i.e. make better informed agency investment decisions through direct assessment of climate risk at the facility level).
- **Scale:** This is a nationwide action assessing NARA locations across the continental United States.
- **Timeframe**: A prototype analysis is anticipated to begin in FY21, with completion in FY22. Based on this prototype, a template for conducting analysis will be established. Where advantageous, independent risk assessments may be completed; however the intent is to ultimately incorporate these into the Building Condition Report (BCR) process used for NARA-owned facilities. Undertaken as part of the BCR process, completion of this action would take five (5) to seven (7) years to complete. BCR cycles would be examined to incorporate addressing highest-priority climate adaptation locations early in the process. Once a template for these assessments is developed, collaboration with GSA is needed to determine the most effective approach for GSA-leased NARA locations.
- **Implementation Methods:** Conducting these assessments will begin through data collection from readily available and authoritative sources and by identifying any additional information required. Site visits will then be performed to engage with local officials who may be able to provide additional actionable data. The site visit would help identify missions, records and artifacts at risk, determine policy and program impacts, and examine facility vulnerabilities and risk. Location-specific reports will be developed for each site, identifying actionable measures NARA can implement to reduce risk to current and projected local climate conditions and predicted likelihood of severe weather events (e.g. 100-year storm events, sea-level surge potential, extended drought, etc.).
- **Performance:** Performance measurement will be based on best local data available, the number of discrete local vulnerabilities identified, and the potential to address vulnerabilities through agency actions. We will track the number of risk assessments completed annually, with the first risk assessment planned for FY21/22 at the John F. Kennedy Presidential Library. We will report on the number of inspections completed annually, with findings identified and number of

findings resolved. We will add this function as part of our Internal Controls Program to be monitored and tracked quarterly. Additionally, supplemental information can be provided by NARA's Performance Management and Reporting System (PMRS) in the following categories: appropriate archival space, holdings preserved, and the storage cost of both archival and records centers.

- **Intergovernmental Coordination:** Coordination will be required across federal, state, tribal, or local governments, who may have useful data on climate change and related effects at the local level. Coordination will seek to identify potential impacts to NARA's holdings and access to those holdings by the general public and by underserved communities. Coordination with GSA will also be required to determine the most appropriate approach to performing assessments of GSA-owned, NARA-leased locations.

- **Resource Implications:** NARA has available staff to assign to this effort, through reprioritization of time for climate impact planning. Available funding may be allocated to incorporate risk assessments, and climate adaptation and resilience analysis into the BCR process. Collaboration with GSA is needed to determine the most effective approach for leased locations. Detailed estimates have not yet been prepared, but a preliminary rough order of magnitude estimate is $75,000 per location to complete independent climate risk assessments.

- **Challenges/Further Considerations:** Until this action is initiated and detailed data gathered, the extent of location-specific data available for each of NARA's geographically diverse and disparate locations is unclear.

- **Highlights of Accomplishments to Date:** The formation of NARA's Climate Adaptation Working Group, implementation of a Climate Change section on the Internal Collaboration Network (ICN), development of a Climate Adaptation home guide, inclusion of agency environmental and risk guidance groups, and initiation of a prototype Climate Risk Assessment effort, underscore the strong start of NARA adaptation and resilience efforts (See Appendix B).

- NARA has executed an extremely successful climate change mitigation plan, resulting in significant reductions in energy use and GHG emissions. NARA was recognized for the success of its effort by the FY 2008 Presidential Award for Leadership in Federal Energy Management. In 2010, NARA was awarded the GreenGov Presidential Award, in the "Lean, Clean, and Green" category, for outstanding achievement in building energy efficiency and renewable energy development and deployment. In November 2013, NARA was recognized and awarded the Energy Star Combined Heat and Power award by the Environmental Protection Agency. In October 2015, the Department of Energy Federal Energy and Water Management Program recognized and awarded NARA with three separate award categories (Individual, Contract, and Program).

Action 2: Strengthen NARA's Climate Resilience through Digital Operations

- **Action Intent:** NARA's Mission depends on our ability to provide access to materials held at our locations across the country. Meeting this requirement at multiple locations, despite climate disruptions, can be supported through our ability to make records available online. Similarly, engaging internally and with the public through digital operations enhances our ability to continue operations during adverse conditions. Digitization efforts, across NARA's facilities, provide access to records throughout the nation, enabling greater access to those in rural or underserved communities.

- **Action Goal:** Examine records digitization, expanded telework, and remote conferencing for opportunities to identify priority efforts to improve resilience to climate change, and for the added benefit to climate mitigation by reducing GHG emissions.

- **Agency Lead:** Resource Management, Business Support Services (B-AC) in coordination with Research Services and the Preservation Strategy Board.

- **Risk or Opportunity:** NARA is improving services, management practices, and mission delivery, which provide better resilience to a changing climate by storing information at offsite locations and making that information available remotely. There is a risk that climate resilience benefits are not fully recognized by staff and agency decision makers, so the opportunity to prioritize climate adaptation goals could be missed. Improving climate literacy across the agency could help alleviate this risk. Meetings with Research Services, Preservation, and Information Services have helped identify and engage members throughout the agency.
    - Digitization of Records: This is twofold.
        - First, in 2023 NARA will no longer accept paper records from federal agencies except under very limited circumstances. This will decrease NARA's needs for records storage space, as digitized records can be stored in more dense storage space, which uses less floor space. Energy costs to maintain records digitally will be less than the cost of maintaining building space for paper records. Reduced energy costs will translate to lower GHG emissions. Additionally, NARA's Preservation Division is participating in a study with the Image Permanence Institute at two NARA locations. This study will look at environmental management strategies for storing permanent records.
        - Second, NARA will expand digitization and outreach to underrepresented communities; prioritize digitization of Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders, and additional underserved communities; review and update description standards to ensure fair and just treatment to underserved communities (E.O. 13985); and make the online search process for records more robust and user friendly. E.O. 14008 emphasizes environmental justice in climate adaptation activities. By digitizing records, NARA enables equal access to those in rural and underserved communities. NARA staff are digitizing records held by the agency, and are poised to stand up a committed high-speed scanning operation currently under design. This system will eventually allow access to historical information remotely. These digitization efforts will be dispersed around our locations and additional efforts will include volunteers and external partnerships such as Ancestry, Daughters of the American Revolution, and Veterans Affairs, among

others. These digitization efforts will lower the risk of one or multiple climate impacts to our facilities while still ensuring access to our records.

- This digital transition will benefit both climate adaptation and climate mitigation efforts. The effort will also benefit our ability to adapt by reducing space needed to store records, thus reducing the size of buildings in our inventory. Once we have digitized records, the public can access digital copies online, so in-person searches at archival storage facilities might decrease. This may facilitate a transition to smaller locations for public FOIA access, and create a more enjoyable experience for users of all ages.
- Expanded Teleworking and Remote Conferencing: The pandemic, and rapid expanded use of virtual environments and cloud-based systems for conferencing, was unanticipated, but lessons learned from this experience now support agency climate adaptation and improve resilience to disruption**.**

- **Scale:** This is an action having nationwide impact, benefitting all NARA locations.

- **Timeframe:** Examining these actions for their impact on climate adaptation can proceed with a summary document anticipated in approximately 9 months. NARA plans to have an overarching digitization plan by the end of FY 2022. Additional updates will be required as the Risk Assessments under Priority Action 1 are completed.

- **Implementation Methods:** This action is an examination of ongoing strategic efforts coupled with lessons learned from recent operational impacts due to COVID-19. The action item will involve data collection on these efforts, an assessment of the contributions these activities may have on climate resilience, and recommendations for any areas identified where consideration of climate resilience might influence agency priorities, policy or strategy.

- **Performance***:* Using NARA's Performance Measurement and Reporting System (PMRS), updates to pages digitized and available online are provided weekly. Additionally data is available for the number of electronic-born records that are accessible online and archival holdings available online and reachable through the National Archives Catalog. For teleworking and remote conferencing, PMRS provides monthly data updates to the amount of staff who participate in the telework program.

  Performance will be evaluated quantitatively, with examination of the scope of climate resilience activity identified and the nature of the recommendations provided, and if recommendations meet criteria for accessibility for all (i.e. environmental justice). Quantitative measures, including performance of companion improvements to climate mitigation through reduction of GHG emissions, will be captured where possible (again to help achieve environmental justice for better overall air quality).

- **Intergovernmental Coordination:** Limited coordination with partners is anticipated. This is primarily an examination of NARA internal processes. However, should Risk Assessments under Priority Action 1 identify risks to access during adverse climate events, coordination with affected jurisdictions and communities may be required.

- **Resource Implications:** Staff resources to complete the assessment action itself are available. Individual efforts being examined are funded at various levels relative to their internal goals.

- **Challenges/Further Considerations:** N/A

- **Highlights of Accomplishments to Date:**

  Digitization of Records: NARA has informed federal agencies that it will no longer accept paper records from federal agencies, except in extremely limited circumstances, beginning in 2023. NARA continues to digitize and make records available online. Additionally, NARA has already begun digitizing records related to the Indigenous People of Alaska and has digitized microfilm related to Native Americans that is currently available in the online catalog. Working groups have been formed on digitization efforts, and reviews of records descriptions have already begun. In terms of archival storage conditions, seasonal drift operations have been adopted throughout the agency, decreasing GHG emissions and increasing energy efficiency. See OMB M-19-21 .

  Remote Conferencing: NARA already provides remote conferencing through Google. NARA provided laptops with webcams.

Action 3: Climate Resilience as Mission Resilience

- **Action Intent:** In the case of catastrophic events due to climate change, such as, wildfires, hurricanes, floods, tornadoes, and energy disruptions, NARA needs to ensure it can successfully carry out its Primary and Mission Central Functions to include Essential Supporting Activities. NARA will ensure support to the National Essential Functions and continue to implement the four strategic goals of the Agency. Revised Continuity of Operations Plans under the Federal Mission Resilience Strategy will better equip NARA to execute essential functions in response to, and recovery from, catastrophic emergencies once the Business Process Analysis and Business Impact Analysis are completed and mitigation actions are completed in accordance with Federal Continuity Directive 2.

- **Action Goal:** Fully incorporate Climate Resilience planning into NARA's development of revised Continuity of Operations Plans under the Federal Mission Resilience (FMR) Strategy. Executive Order 13961 on Governance and Federal Mission Reliance was signed in December 2020. FMR's emphasis is on continuously maintaining and performing essential functions and services without time delay by focusing on the framework, "Assess, Distribute, and Sustain." The goal is to have NARA become more resilient against climate threats and conditions by distributing risks and capabilities, minimizing single points of failure. By maintaining operations in times of disruptive events, NARA will continue its mission to provide important information to everyone via remote access. Continuity of operations means providing service to underserved and vulnerable communities everywhere.

- **Agency Lead:** Security Management, Business Support Services (BX) in coordination with Chief Operating Officer, Chief of Management and Administration, and Office of Federal Register.

- **Risk or Opportunity:** Opportunities in the four continuity pillars of Leadership, Staff, Communications, and Facilities are available. Examples are the potential identification of additional regionally-based successors to the Archivist of the United States; successfully distributing authorities and capabilities as appropriate; controlling building systems remotely; modernizing technology; and expanding information communications technology systems and collaboration tools for effective communication. By formally linking climate adaptation and resilience planning to development of agency strategy to implement the FMR, we will improve both processes and create a greater awareness that climate resilience is a mission-resilience result.

- **Scale:** This is an action having nationwide impact, benefitting all NARA locations.

- **Timeframe:** This action began in FY 2021 with an anticipated completion date in FY 2026.

- **Implementation Methods:** The implementation plan is an ongoing development. The FMR Implementation Planning Committee (FMR sub-IPC) holds bi-monthly meetings. This committee is chaired by the Executive Office of the President, National Security Council. Within NARA, the effort is led by the Continuity Emergency Working Group (CEWG). Representation on the CEWG includes sustainability and climate resilience subject matter experts.

- **Performance:**
    - Engage NARA Leadership to brief regarding Federal Mission Resiliency Strategy by end of FY21.
    - Completion of the Business Process Analysis (BPA) to determine candidate Primary Mission Essential Function (PMEF), Mission Essential Functions (MEF), and Essential Supporting Activities (ESA). Completion by November 2021.
    - Completion of the Business Impact Analysis (BIA) based on the results of the BPA. Completion by January 2022.
    - Submit Candidate PMEF, MEF and ESA to FEMA by the end of February 2022.
    - Performance will be routinely tested through the inclusion of simulated adverse climate events as a test scenario in annual continuity drills and exercises.

- **Intergovernmental Coordination:** FMR Implementation Planning Committee (FMR sub-IPC)

- **Resource Implications:** Once the FMR Implementation Plan is defined, NARA will evaluate requirements and identify the additional work and resources necessary to meet those new requirements.

- **Challenges/Further Considerations:** Challenges surrounding classified communications systems and records that are not digitized will be addressed in the planning process.

- **Highlights of Accomplishments to Date:** NARA is actively participating in FMR sub-ICP meetings and providing input on the draft plan.

Action 4: Strengthen NARA's Climate Resilience by Leveraging Cloud-Based Solutions

- **Action Intent:** Maintaining NARA's operations during climate-related events requires a transition from locally-hosted technology systems to cloud-based enterprise systems. Reliance on locally-hosted systems carries the risk of loss of mission capability due to impacts from localized weather-related events. Cloud-based systems are more resilient to climate interruptions, and distribute data. Data centers provide a simpler, more secure data supply chain, and may ultimately reduce GHG emissions due to consolidated cooling and controlling of the data centers, and eventually a lesser need for building space to store paper records.

- **Action Goal:** Conduct a thorough examination of ongoing efforts, and identify additional areas for investigation, to provide enterprise, cloud-based solutions to management systems. Identify priority efforts that improve resilience to climate change.

- **Agency Lead:** Business Support Services in coordination with Information Services

- **Risk or Opportunity:** NARA is already engaged in multiple efforts that improve services and management practices, by transitioning from stand-alone location-specific approaches to standardized cloud-based solutions. These have a clear side benefit of providing increased resilience to a changing climate. There is a risk that the climate-resilience benefits of these actions are not fully recognized, and that the opportunity to influence the prioritization of climate adaptation goals could be missed. Improved climate literacy could alleviate this risk.

- **Scale:** This is a nationwide action assessing NARA locations across the continental United States.

- **Timeframe:** Timeframe to examine these efforts for their relationship to climate resilience is 12 months. The timeframe for examining additional existing systems for possible future integration into enterprise systems and cloud-based solutions would be dependent, in part, on completion of the location specific assessments under Priority Action 1.

- **Implementation Methods:** The effort here builds climate resilience into ongoing transition of systems to cloud-based solutions, with an intent to identify where climate resilience may be a driving factor in developing future implementation plans. These systems currently include NARA's Electronics Records Archive (ERA 2.0), Description and Authority Services (DAS), National Archives Catalog (NAC), Building Automation Systems (BAS), Enterprise Physical Access Control Systems (EPACS), and Building Management Systems (MAXIMO). Implementation would also include examination of remaining legacy systems hosted locally that may be susceptible to climate impacts. Implementation would examine:

    - Continuity requirements and migrating operations from designated facility to cloud-based support, resulting in better energy resilience, and potentially lower GHG emissions over time.
    - Multi-cloud and redundant hosting considerations, as a single cloud storage location may still be vulnerable to climatic disruption.
    - Robotic Process Automation that may mitigate impacts from climatic events.
    - System requirements to support extended full-time telework to accommodate remote operations during climatic events and to reduce facility costs and energy consumption.

- **Performance:** Performance will be initially evaluated on a qualitative basis, with examination of the scope of climate resilience activity identified and the nature of the recommendations provided. Quantitative measures based on the number of systems identified as promoting climate resilience, the timelines for their implementation, and the completion of implementation across NARA locations, will be developed following the initial analysis of existing and candidate cloud based solutions. These metrics, once identified, will be captured within Internal Controls Systems for monitoring. Quantitative data on potential companion climate mitigation measures, such as reduction in greenhouse gas emissions, will be captured wherever applicable.

- **Intergovernmental Coordination:** Coordination will be required for NARA facilities that are owned/leased by GSA or other government agencies. Coordination with other agencies facing similar challenges may be informative.

- **Resource Implications:** NARA has available staff assigned to this effort.

- **Challenges/Further Considerations:** Since each system's deployment is a multi-year effort, currently identified requirements and cost estimates for out years may be inadequate to complete all sites within the anticipated time frame. NARA will consider long-term maintenance, changes in digital data requirements, platforms, or security and integrity of electronic systems in the cloud. This will require more focus and extensive planning.

- **Highlights of Accomplishments to Date:** NARA has already begun to transition systems to cloud-based enterprise solutions. In addition to the specific systems identified earlier, NARA is making extensive use of online collaboration tools through the Google suite of products and has established a highly successful Internal Collaboration Network (ICN). Similarly, for building services, MAXIMO was fully implemented as an enterprise system in 2020. This makes MAXIMO accessible to users from remote locations, thus increasing resilience and flexibility. The implementation plan for other systems is an ongoing multi-year effort.

Action 5: Improve NARA's Climate Resilience through Increased Facility Readiness

- **Action Intent:** Building condition, holding capacity, and operating systems configuration at NARA locations have a significant impact on our ability to adapt to a changing climate. They must remain resilient during adverse conditions. This begins with policy and program decisions at the agency.

- **Action Goal:** (1) Make climate resilience part of policy and program goals with language addressing climate adaptation and facility readiness at all NARA locations. NARA expects to complete a review of all policies for potential climate adaptation language and produce a summary document within 9 months. (2) Primary funding sources for facility maintenance, repair, and improvement are NARA's Operating Expenses (OE) and Repair and Restoration (R&R) accounts. In the first year of this plan, NARA will examine funding and prioritization processes within these programs to ensure that climate resilience and adaptability are considered. (3) NARA will examine the results of the assessments completed under Priority Action 1 and begin incorporating corrective actions into OE, R&R, or leasing actions as they are identified.

- **Agency Lead:** Business Support Services, Facility and Property Management (BF) in coordination with Research Services, Presidential Libraries and Museums, and Agency Services.

- **Risk or Opportunity:** NARA has programs and prioritizes facility funding based on building condition, safety, and operational risk considerations. Our current BCR process does not address climatic events on facility readiness. Better information is needed on climate changes before investment decisions are made to improve facility climate resilience. The uncertainty of risk and effects of climate change at each location cause concern for protecting assets, and gives further credence for the need to do climate risk assessments.

- **Scale:** This is a nationwide action assessing NARA locations across the continental United States. NARA has already begun qualitative assessments of locations based on prior experience, preventing losses, and proactively responding to anticipated future threats (e.g. coffer dam and utility intrusion points at the National Archives building at Washington, DC, and sea-wall fortification at the John F. Kennedy Library).

- **Timeframe:** Quantitative assessments will begin with the prototype assessment in FY21/22 and continue as discussed in Priority Action 1. Policy and programming reviews will begin in FY22.

- **Implementation Methods:** NARA will proceed with those locations perceived to be most vulnerable to climate change. We will incorporate results of risk assessments into BCR's. Beginning in FY22, processes for prioritization of funding for facility readiness will be examined and appropriate weighting will be given to climate resilience actions in the next budget cycle.

- **Performance:** Performance will be measured by the completion of risk assessments and actions taken on recommendations. Any actions taken will be subject to available funding to address the recommendations. We will track the number of risk assessments completed in our Internal Controls Program, which is monitored and tracked quarterly, and as facility resilience projects are identified we will begin monitoring the total number identified, programmed, and executed.

- **Intergovernmental Coordination:** Coordination will occur with various partners depending on the specific facility being examined. Examples are Silver Jackets and data from EPA stormwater, USACE floodwalls, and HUD risk reductions.

- **Resource Implications:** Facility-level improvements for climate adaptation and improvements for resiliency will add to NARA requirements competing for limited resources. The extent of the additional funding that may be required will not be known until each facility's specific assessment is completed and required actions identified. In the interim NARA anticipates much of the additional funding will need to be made available through resource allocation, ESPCs, grants, or the diversion of other funds.

- **Challenges/Further Considerations:** The most immediate challenge is incorporating location-specific climate adaptation analysis into the BCR process. This will require both adjusting the BCR scopes and revising the order of execution to obtain actionable climate adaptation information as early as possible. Completing the assessments under Action 1: Develop Facility-Level Climate Risk Assessments, is critical to implementation of this follow-on action.

- **Highlights of Accomplishments to Date:** The following projects for improving NARA's facility resilience have been completed.

    - Sea-Level Rise: A sea-wall fortification project is currently underway at the JFK Library location.

    - Flooding/Inundation: Multi-agency mitigation strategy for flooding and inundation in vulnerable areas (e.g. Federal Triangle, Washington DC).

    - Wildfires: NARA has employed unique grazing practices to reduce tinder near NARA locations.

IV. Known Vulnerabilities and Deficiencies

This document is organized into three topic areas with five related action items identified by the agency to help mitigate, and adapt to, climate change.

Need to Update Climate Risk Assessments

Previous climate risk assessments at NARA locations have been subjective and were prepared based on available regional scale data. Quantitative assessment at the local level is needed to provide a basis for our decisions. As the release of new climate information in the National Climate Assessment has improved granularity, these higher quality risk assessments may be practical for many locations. In FY21, NARA intends to execute a pilot effort at a single location to test processes for localized climate impact risk assessments.

NARA intends to ultimately incorporate this analysis into our Building Condition Reports (BCRs) process. This will provide a programmatic approach and provide for location-specific climate change updates at least every 5 years as an ongoing part of the recurring future BCR updates. As this is the key first step in a closer examination of climate adaptation, undertaking these assessments is our first priority action in this plan. Details on approach, timing, funding, and challenges are addressed in the section on Action 1: Develop Facility-Level Climate Risk Assessments.

The agency is moving forward with risk assessments (Action Item 1) and analysis of secondary effects caused by climate change, and is prepared to deal with those effects (including local and regional disruption of utilities) in Action Item 3.

Some examples of site-specific adaptive activities include seeking enhanced/expanded data collection; improving flood and shoreline protection (Action Item 5); building sustainable structures; improving old structures to make them more energy and water efficient and resilient to climate change; making plans to relocate at-risk infrastructure when other adaptation strategies are not feasible; and digitizing records and operations (Action Items 2 & 4).

Enhancing Workforce Climate Literacy

NARA has established a Climate Change Working Group with membership from across the agency. This Working Group has been largely inactive since the onset of the global pandemic, but is being revitalized as NARA begins to restore more operations.

NARA will develop annual staff training for climate change. This climate literacy training will help employees understand how the agency's actions and employee actions at work and at home can affect climate, thus helping everyone make better climate-related decisions. The training would be updated regularly as new information on climate change or changing Executive Office policy dictates.

The training will be developed by NARA's Climate Working Group and be part of NARA's annual mandatory training. The training will be regularly reviewed and updated as necessary. Additional training will be provided on NARA's Learning Management System (LMS).

The Working Group is also developing a Climate Change collaboration page on NARA's Internal Collaboration Network (ICN). The ICN will be used to host content ranging from emergency preparedness processes at work to measures individuals can take in their homes and communities. The ICN is a

valuable resource providing both information and the opportunity to discuss questions and issues with NARA's staff across the agency. A booklet, Climate Change and Taking Action: How to Reduce Your Carbon Footprint is currently in development and will be provided to staff on the ICN.

Additionally, site visits used to conduct location specific climate impact risk assessments will be used to promote awareness among the staff. Specific local concerns will be discussed and potential impacts will be addressed with the staff during the data collection and alternative development processes.

Agency-Wide Actions to Enhance Climate Resilience

Agency Actions to Ensure a Climate-Ready Supply of Products and Services

NARA's Climate Change Planning relies on identifying and developing appropriate adaptation strategies at each location. NARA expects its adaptation and mitigation actions to continue to progress. NARA has performed well on GHG mitigation efforts via improved energy efficiency, operational, telework promotion, employee commuting on mass transit, reduced business travel, solid waste, and water programs, all leading to reduced GHG emissions. NARA will continue to improve these areas through ESPCs and agency funding to further improve efficiency and promote renewable energy sources.

The next phase to climate change adaptation is to address more specific local risks. This means being prepared for risks that change over time, or are extreme (catastrophic) events. Adaptation planning calls for a solid understanding of a location's specific risks using the growing quantity and quality of localized data. Risk reduction strategies include increasing infrastructure resilience, transferring risk through appropriate future planning (e.g. building in low-risk areas), partially negating risk through technological change or retreat, and promoting behavioral changes and revised protocols. We must act effectively and quickly to alleviate the full range of climate change consequences.

NARA will prioritize climate readiness in its management of procurement processes, materials, and products to improve its resilience towards events that may disrupt or compromise the supplies we rely on. The following considerations and actions will be taken to advance a more climate-robust supply of goods and services:

- move from "just-in-time" for critical supplies to stocking; use strategic sourcing; ID alternative sources.
- maintain an adequate supply of IT equipment
- keep heating and cooling systems normal wear parts on hand
- have multiple vendors for transportation services, when possible
- provide separate onsite energy supply for cooling of data centers in case of power interruptions
- minimize disruptions, including energy and other events, by having on-site backup power, and contingencies.

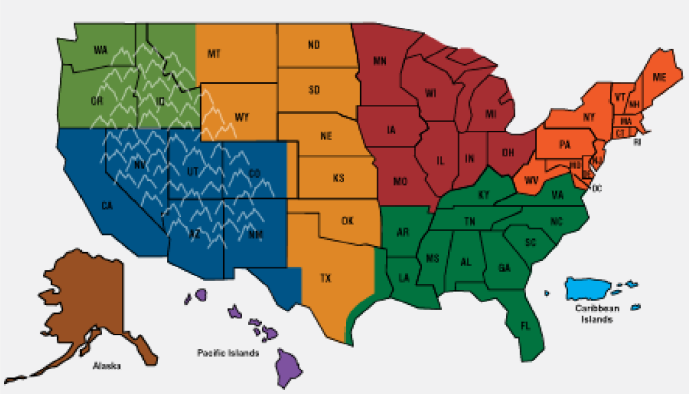
Over the next year, additional assessments will be used to identify the five most critical or priority supplies or services at risk to climate disruption and extreme events.

NARA recognizes that planning now for climate change (improved preparedness) may prevent spending many times more money at a later date in response and recovery. We also recognize that issues must be prioritized. Not all issues can, or should be, addressed at once, so it is important that risk is prioritized to maximize NARA's resources to ensure timely and effective response to climate change. Although NARA's

mission goals stress protection of holdings and continued availability of those holdings to the public, another important consideration is maintaining human health and safety, while maintaining NARA's basic services. Risks presenting the most serious consequences (threats to human health/safety, and maintaining viability of holdings and buildings during serious and short-term threats) are generally projected to occur first, and so are given highest priority.

Agency Actions to Advance Equitable Distribution of Environmental Risks and Benefits

In the past NARA has focused on GHG mitigation as a path to environmental justice, so results have been limited. This is due to the agency's impression that we have little impact or effect directly to achieve meaningful environmental results. However, E.O. 14008 emphasizes environmental justice in climate adaptation activities. Therefore, NARA is redoubling its efforts on environmental justice. By digitizing records, NARA enables greater access to those in rural and underserved communities remotely. NARA will use other pathways to achieve environmental justice, including: assessing geospatial tools (e.g. EPA's EJSCREEN, the CDC/ATSDR's Social Vulnerability Index, and a Climate and Economic Justice Screen Tool) for risk-reduction opportunities around facilities in underserved communities, and exploring paid internship opportunities.



Northeast- Heat waves, heavy downpours, and sea-level rise pose growing challenges to life in the Northeast. Infrastructure will be increasingly compromised by climate-related hazards, including: sea-level rise, coastal flooding, and intense precipitation events.
Southeast- Sea-level rise poses widespread, continuing threats to the region's economy and environment. Extreme heat will affect health, energy, agriculture, and more. Decreased water availability will have economic and environmental impacts.
Midwest- Extreme heat, heavy downpours, severe storms, and flooding will affect infrastructure, health, agriculture, forestry, transportation, air and water quality, and exacerbate risks to the Great Lakes and large river estuaries.
Great Plains- Rising temperatures lead to increased demand for water and energy. In parts of the region, this will constrain development, stress natural resources, and increase competition for water.
Southwest- Increased heat, drought, and insect outbreaks linked to climate change, have increased wildfires. Declining water supplies, reduced agricultural yields, health impacts in cities due to heat, and flooding and erosion in coastal areas are additional concerns.
Northwest- Changes in the timing of stream flow reduce water supplies for competing demands. Sea-level rise, erosion, inundation, risks to infrastructure, and increasing ocean acidity post major threats. Increasing wildfire, insect outbreaks, and tree diseases are causing tree die-off.
Coasts- Coastal lifelines, such as water and energy infrastructure, and nationally important assets, such as ports, tourism, and fishing sites, are increasingly vulnerable to sea-level rise, storm surge, erosion, flooding, and related hazards.

Brief Overview of Historical Climate Change impacts at NARA Locations

Inundation, Washington, DC - National Archives Building
In 2006, the Federal Triangle in downtown Washington, DC flooded, causing extensive damage to federal buildings. The National Archives at 700 Pennsylvania Avenue, NW was among the buildings in the area inundated by flood waters. Water inundated the lower levels of the building, completely submerging the below-street-level-electrical vaults, the sub-basement and the central plant, causing extensive damage and closing the building to the public and staff for over 30 days. The holdings are kept on upper levels and did not suffer damage, although environmental storage conditions were disrupted. It took months and several million dollars to recover from the damage. NARA installed self-rising flood gates at the moat entrances and cofferdams around the electrical vaults to prevent further occurrences, but the entire Federal Triangle remains vulnerable. NARA has partnered with the Silver Jackets, facilitated by the local USACE field office, and has been working in conjunction with other affected agencies to develop an overall multi-agency mitigation strategy for flooding and inundation in vulnerable areas such as the Federal Triangle.

Flooding, New York, NY - National Archives at New York
Tropical Storm Sandy impacted a NARA site in South Manhattan. The lower level of the building was flooded during this event. Holdings were moved to another location prior to the flood event, thus avoiding loss.

Flooding, Houston, TX - Two Presidential Libraries
Hurricane Harvey caused extensive damage in the Houston area and water damage to the Lyndon B. Johnson and George H.W. Bush Presidential Libraries.

Tornado, St. Louis - The National Archives at St. Louis and the National Personnel Records Center
Shortly after opening the new St. Louis facility, a tornado touched down on the access road in front of the facility. This tornado destroyed high-voltage power lines and severed power to the facility for 3 days. Although this was a near miss, it served as a reminder to be prepared for extreme weather events.

Sea-Level Rise, Boston, MA - John F. Kennedy Presidential Library
Climate change projections include sea-level rise and a greater likelihood of severe weather events (e.g., hurricanes, storm surges). The U.S. provides a range of plausible globa SLR scenarios, ranging from 8 inches up to 6.6 feet by 2100. NARA has one agency-owned location that directly meets these vulnerability criteria (JFK Presidential Library). A sea-wall fortification project is currently underway at this location. Other NARA locations that may be affected indirectly by SLR and inundation are the National Archives Building in Washington, DC and the National Archives at New York.

Wildfires, California - Two Presidential Libraries
Water availability challenges and drought exist in the irrigated West, due to reduced winter precipitation resulting in less snowpack and snowmelt. NARA has facilities (Nixon, Reagan Presidential Libraries) impacted by drought. Prolonged drought periods coupled with hotter temperatures may also contribute to increased wildfires.

Wildfires and the Ronald Reagan Presidential Library

NARA has been using goats for brush clearance for about 10 years at the Ronald Reagan Library. This is a natural and environmentally sound program that is always a big hit with our visitors. We partner with the Ventura County Fire Department who makes all of the arrangements. This year they brought approximately 350 goats, 2 sheep dogs, and a shepherd (who lives on site, in a trailer, during the process). The goats were at the Library for approximately 2 weeks in 2021; however in previous years they have been at the Library longer when there has been more vegetation for them to eat. This past year was exceptionally dry due to past fire.

The goats are herded within a temporary electrical fence set up by the shepherd and then the goats eat the ground cover vegetation within approximately 150 feet from the building/property lines on the hillsides around campus. Once the goats are done at the Library, the herds are returned to a 'neutral' pasture area by the company supplying the goats so that they 'clean out their systems' before being deployed at another location. That is done to ensure non-native plants/seeds are not deposited in another location.

The Ventura County Fire Department also times the goat's arrival so that it does not disturb birds in the area that might be nesting in the bushes. That is done in coordination with federal wildlife officials.

The photo to the right shows the area around the Library that the goats clear. This clearance proved to be a huge benefit during the fire a couple of years ago that engulfed the entire property around the Library. The flames literally came all the way up to the buildings. With winds gusting over 70 mph, the danger was extreme. The Fire Department credits the goats with a job well done that probably saved the structures.

NARA continues to increase its understanding of the implications climate change has on its business practices, and is building a working knowledge to ensure future decisions consider climate change impacts and do not create further vulnerabilities or liabilities. This plan incorporates NARA's Directive 1571 and 36 CFR 1234 to protect holdings against short- and long-term risk. Since this plan represents formal initiation of NARA's attempts to develop its climate adaptation response, some initiatives may be initially exploratory in nature and aim to identify appropriate changes or actions to respond to the impacts of concern not addressed in NARA Directive 1571. To alleviate risk to human health, emergency management and safety plans are being reviewed and revised. Reviewing current NARA protocols/practices and programs associated with risk are an early step to identifying immediate adjustments to alleviate or reduce that risk. Where adjustments to current protocols/practices will not sufficiently address risk, more substantial actions will be developed and implemented in NARA programs. NARA will coordinate with other government agencies and consult with local businesses, academic institutions, environmental organizations, and other stakeholders to fully implement and refine NARA's Climate Change Adaptation and Sustainability Plan. This plan also addresses and strengthens NARA's attempts to meet the OMB Scorecard, E.O. 14008, and LEED requirements (at appropriate sites).

Establishing Better Metrics for Evaluating Climate Adaptation Performance

As we place a greater focus on climate adaptation efforts, new metrics to guide the implementation and monitor progress will be needed. NARA has a robust Performance Management and Reporting System (PMRS) which provides data on numerous NARA programs and initiatives that influence our resilience to climate change and our ability to adapt to the changing environment. Specific metrics are identified for each of the five Priority Actions. These metrics, as they are further developed and refined, will be added to NARA's PMRS to provide agency-wide visibility into NARA's adaptation progress.

Appendix A. KEY TERMS AND ACRONYMS

Building Condition Report (BCR)	Engineering survey of a building and physical environment.
Climate	The average of weather conditions over at least a 30-year period.
Climate Adaptation	Initiatives preparing a community for the unavoidable impacts of climate change (e.g.sea-level rise or extreme weather events).
Climate Change	A non-random change in climate that is measured over several decades or longer. The change may be due to natural and/or human-induced causes.
Climate Mitigation	Initiatives to reduce GHG emissions, e.g. installing solar panels or riding a bicycle instead of driving a car.
Drought	An extended period when a region receives a deficiency in its water supply, whether atmospheric, surface or groundwater. A drought can last for months or years, or may be declared after as few as 15 days.
Flooding	A rising and overflowing of a body of water especially onto normally dry land. Often used synonymously with inundation.
Floodplain	Any land area susceptible to being inundated by flood waters.
Greenhouse Gases (GHGs)	Gases in the atmosphere that absorb and emit radiation within the thermal infrared range, contributing to the greenhouse effect. Primary greenhouse gases in the Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons (CFCs).
Inundation	The act of flooding, or covering a land area, or an overspread of land with water from a water body (from above ground or below ground).
Mitigation	The action of reducing the severity, seriousness, or painfulness of something.
National Archives and Records Administration (NARA)	An agency of the United States government charged with preserving and documenting government and historical records and providing public access to those documents.
National Oceanic and Atmospheric Administration (NOAA)	A bureau within the Commerce Department whose mission is to understand and predict changes in climate, oceans, and coasts, to share that knowledge and information with others, and to conserve and manage coastal and marine ecosystems and resources.
Qualitative Risk Assessment (or Analysis)	The relative measure of risk or asset value based on ranking or separation into descriptive categories.
Quantitative Risk Assessment	The use of measurable, objective data to determine asset value, probability of loss, and associated risk(s).
Sea-Level Rise (SLR)	The average amount of rise (globally) in the elevation of the oceans relative to land. Current sea-level rise is about 3 mm/year worldwide.
Sustainability	The ability to continue a defined behavior or activity indefinitely.
Weather	State of atmosphere at a place/time related to heat, dryness, sunshine, wind, rain, etc.

Appendix B. RISK ASSESSMENT STEPS FOR SLR, FLOODING, AND DROUGHT

Risk Assessment Steps for SLR, Flooding, and Drought
Step 1: Locate Asset Use GIS and map data for assets. (e.g. for the JFK Library location the following steps are used to predict future SLR).
Step 2: Assess for SLR, inundation, drought etc. SLR estimates from the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center assess increments of SLR, and how far inland inundation that may be experienced at the location. NOAA's analysis includes hydrologic connectivity between tidal surface and inland regions at or below the modeled tidal surface, but prevents areas of lower elevation to fill with water unless there is a flow path. For drought, use projections in the National Climate Assessment (NCA) generalized map.
Step 3: Assign Time Component This step involved two activities. First, the using NCA's global SLR scenarios to account for relative sea-level effects for individual locations. Second, relative SLR rates for locations must be tied to specific timeframes, to identify actual or perceived risks. These same steps are used for flood maps and drought predictions.
Step 4: Visually Assess for Impacts of Climate Change Using GIS, and modeled outputs, an analysis can evaluate SLR over time. Additionally, visual assessment may identify a result that the modeled approach did not capture, e.g. some assets may be identified as not inundated, but surrounded by water under some SLR increments. Analysis of facilities potentially affected by SLR may make a distinction between inundated (some portion under water) and operationally affected facilities (not under water but surrounded by water). Drought may be intermittent or long term. Planning for drought, water availability, and water quality could be less certain than for flooding and SLR.

Appendix C. AGENCIES NARA COLLABORATES WITH ON CLIMATE

NARA collaborates with other federal agencies and private and public organizations on climate change adaptation and resilience planning. Some examples are listed below.

a. General Services Administration (GSA) for Records Centers
b. Library of Congress (LoC)
c. National Park Service (NPS) - Presidential Libraries on Park Service property
d. Universities – where Presidential Libraries are co-located
e. Environmental Protection Agency (EPA) - Climate Change Adaptation and Resiliency Planning - Community of Practice groups
f. National Oceanic and Atmospheric Administration (NOAA) - for regional data and sea-level rise information
g. National Aeronautics and Space Administration (NASA) - some local, but mostly regional data
h. Association of Climate Change Officers (ACCO) - collaboration, networking and training on climate change
i. United States Green Building Council (USGBC) - LEED preparation and certification

NARA is partnering with and using information from other agencies (e.g. NASA, SI, NOAA, DOE, DOI, GSA, NPS, LoC, GPO, and universities with co-located Presidential Libraries) where appropriate. NARA will need to incorporate climate change requirements into policies and emergency planning efforts.