Climate Change Risk Management Plan

September 2021

Executive Summary

The U.S. General Services Administration (GSA) is a leading provider of workplaces, acquisition solutions and policies for the Federal Government. The agency supplies centralized procurement for the Federal Government, offering billions of dollars worth of products, services and facilities that federal agencies need to serve the public. This *Climate Change Risk Management Plan*[1] describes steps GSA will take to develop a robust and resilient capacity to manage climate change risks and secure federal real property and supply chain investments. By addressing these risks, GSA can create innovative economic opportunities, create jobs, save money, and develop healthy, just and prosperous communities.

Climate Vulnerabilities

By applying the best available climate data, GSA implements a mission-tailored, risk-informed process to identify its vulnerability to climate disruptions. The vulnerability assessment captures mission, operational and programmatic effects GSA-wide. GSA's most recent comprehensive internal vulnerability assessment was completed in 2015. The assessment found the following top five vulnerabilities that pose the most significant risk to GSA's mission:

1. GSA Real Property (including culturally and historically significant properties)
2. Information and Communications Technology Supply Chain
3. Water and Wastewater Utilities
4. Transportation and Transit Access
5. Global Supply Chains and Infrastructure.

Section 2 outlines the specifics of these vulnerabilities and the actions that GSA will take to address them. In the future, with the availability of adequate resources, GSA will update the assessment and create a plan to address any new vulnerabilities to the agency.

Climate Change Adaptation Actions

Through a collaborative process across the agency, GSA selected its top five priority actions to advance climate adaptation efforts:

1. Formulate environmental and climate justice criteria, requirements and metrics to inform decisions for real property, services and supply.
2. Improve requirements planning and management processes with GSA customers using climate information.
3. Develop portfolio-wide vertical datum and integrate it into portfolio management information systems and asset business planning.
4. Integrate considerations for the financial effects of the physical and transition risks of climate change into formal agency decision-making processes.
5. Integrate methods to monitor and evaluate changing conditions in the Building Assessment Tool to inform prudent capital investment and asset management.

[1] The Climate Change Risk Management Plan ("Plan") meets the Climate Action Plan requirements of section 211 of Executive Order 14008, and builds on previous agency plans and reports.

Section 3 describes specific goals, time frames, implementation methods, and performance metrics for each of the five actions.

Enhancing Climate Literacy

Climate science must be translated into decision-useful information to communicate climate-related risks effectively across the agency. Promoting general climate literacy across GSA and integrating consistent and accurate climate information to promote informed decision-making will require developing new material and updates to agency-wide training programs and resources. Using the five priority actions and the offices principally responsible for their implementation, GSA will prioritize climate literacy efforts with the Office of the Chief Financial Officer, the Office of Customer and Stakeholder Engagement, the Public Buildings Service (PBS) Office of Portfolio Management and Customer Engagement, the Office of Civil Rights, the Office of Administrative Services, the Office of Government-wide Policy's (OGP) Office of Acquisition Policy, Integrity and Workforce and the OGP Office of Asset Management and Transportation Policy. Section 4 contains a timeline and measures to monitor progress.

Climate-Ready Sites, Facilities, Products, and Services

The *Facilities Standards for the Public Buildings Service*, PBS-P100, includes design standards and criteria so that sites and facilities are climate-ready. Studies during the project formulation phase include climate risk factors. Through conversations with customers, PBS plans to improve processes to protect vulnerable mission critical sites, develop portfolio-wide data to better understand sensitivity and exposure to flooding risks and continue piloting occupancy sensors to improve safety from climate-driven hazards. The PBS Urban Development/Good Neighbor Program is considering revisions to federal facility location policies to include climate risks in siting buildings and procuring leases.

Considering agency demand, projected exposure and sensitivity to climate risks, the top five critical supplies and services the Federal Acquisition Service procures are telecommunications, motor vehicles and fleet, professional services, information technology (IT) hardware, and IT services. Process improvements to manage climate risks to these critical supplies and services will be implemented through acquisition policy; the Disaster Purchasing, Global Supply and Retail Operations programs; category management; and fleet. In addition, the agency will consider utilizing responsibility determinations to explore how contractors address environmental justice issues. Section 5 describes specific goals, time frames, implementation methods, and performance metrics for climate-ready sites, facilities, products, and services.

Future Activities

The Plan is a living document that will be updated within one year of the publication of each *National Climate Assessment* report or at least every four years, whichever is earlier, and progress with Plan implementation will be reported as required under Executive Order 14008. GSA's Senior Climate Change Adaptation Official, in coordination with the Executive Climate Action Council, Strategic Sustainability Advisory Group and Chief Sustainability Officer, will review and update this Plan. GSA will make this Plan available to the public, as directed by the White House Council on Environmental Quality and the Office of Management and Budget.

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1. Introduction

The U.S. General Services Administration (GSA) is a leading provider of workplaces, acquisition solutions and policies for the Federal Government. The agency has jurisdiction, custody or control over more than 8,800 federally owned buildings or leases, maintains an inventory of more than 371 million square feet of workspace for over 1 million federal employees (most of which are occupied by customer agencies), preserves more than 512 historic properties, owns over 226,000 vehicles (most of which are leased to customer agencies), and supplies 28 million different products and services, totaling more than $75 billion in annual sales. Climate change will challenge GSA's ability to secure these valuable assets and meet policy and program objectives.

This “Climate Change Risk Management Plan” (the “Plan”) describes the steps the agency will take to develop a robust and resilient capacity to manage climate change risks and secure federal real property and supply chain investments. By addressing these risks, GSA will create innovative economic opportunities to advance clean energy goals, create jobs, save money, and develop healthy, just and prosperous communities. This Plan builds on GSA’s past and ongoing climate change risk management strategies to limit disruptions to the agency’s mission and programs and establishes planned future actions to adapt to climate change and improve the resilience of its assets and operations.

This Plan discusses the scope of GSA’s actions to advance climate adaptation and resilience. The actions focus on properties that are under GSA’s jurisdiction, custody or control and procurement actions where GSA primarily bears, or can manage on behalf of its customers, the material effects from climate hazards and benefits from investments in climate adaptation directly. In general, GSA does not manage public lands or waters or underwrite major financial programs, such as grants or federal insurance.

1.1 GSA Policy Statement

Appendix A includes GSA’s policy statement, “Response to Climate Change through Climate Adaptation and Climate Risk Management,” reaffirming the agency’s commitment to integrate climate data into its mission and across all relevant programs, management functions and decision points to reduce risk to GSA’s mission.

1.2 Applicability

As stated in the GSA policy statement in Appendix A, this Plan does not alter or affect any existing duty or authority of individual components or offices. Implementation of the Plan will comply with applicable laws, Executive Orders (EO), rules, regulations, and guidance.

1.3 Designated Senior Climate Change Adaptation Official

GSA has designated the agency’s Deputy Administrator as the agency’s Senior Climate Change Adaptation Official (Senior Official) responsible for overseeing implementation of the climate adaptation actions established in this Plan.

1.4 Climate Change Risks, Roles and Coordination Across the Agency

Climate change risks and opportunities exist across the agency, requiring collective action across various GSA organizations to address threats, capitalize on opportunities and sustain the agency's mission successfully. While much of the priority climate risks and opportunities are within the Public Buildings Service (PBS) and Federal Acquisition Service (FAS), additional staff offices have roles and responsibilities in implementing the actions outlined in the Plan. The governance structure in Appendix B illustrates how GSA offices and senior officials will coordinate to implement the Plan.

1.4.1 Executive Climate Action Council

GSA's Executive Climate Action Council (ECAC) is the agency's newly formed decision-making body for GSA policies and activities relevant to combating the climate crisis. It approves agency plans and goals and provides resources for activities, as needed, to meet those goals. The ECAC is chaired by the Administrator and composed of members of GSA's senior leadership team to facilitate a coordinated and effective strategy across the agency.

1.4.2 Public Buildings Service

The PBS mission is to supply effective, mobile and sustainable workplace solutions for federal agencies at the best value for the nation. Mission delivery for PBS is affected by federal policy, variable funding levels, increasing temperatures, changing precipitation patterns, more intense storms, and rising sea levels. By securing mission critical workplaces, GSA helps its customer agencies execute their missions. Depending on the customer mission, GSA may be asked by customer agencies to provide buildings that maintain livable conditions during extended power outages, interruptions in heating fuel and shortages of water to facilitate resilience and survivability.

1.4.3 Federal Acquisition Service

The FAS mission is to deliver comprehensive products and services across the Federal Government at the best value. It offers solutions for products and services; technology; motor vehicle management, transportation and travel; and procurement and online acquisition tools. FAS is a key source for products and services supporting climate adaptation planning efforts and can build governmentwide resiliency through the contracting process. Since it operates on a fee-for-service model and is not a mandatory source in a majority of the markets it serves, FAS must work closely with its customers and industry partners to make available the appropriate products and services to sustain mission-critical federal operations. In addition, the Emergency Management Program Management Office (PMO) within FAS serves as a partner to the Federal Emergency Management Agency (FEMA) and the GSA Office of Mission Assurance (OMA). The PMO plays a key role supporting federal disaster response.

1.4.4 Office of Mission Assurance and Continuity of Operations

OMA serves as the agency lead for continuity of operations (COOP) and special security programs, as well as disaster policy, planning, support, and operational coordination. GSA

supports federal agencies and State, tribal and local governments that need resource support prior to, during and after incidents requiring a coordinated federal response. As co-lead for Emergency Support Function 7 and the Government Facilities Sector, GSA handles any extreme weather events deemed so significant that they impair GSA's statutory mission or operation or those of partner agencies. GSA's ability to maintain and implement COOP plans does not reduce vulnerability to real property damage from extreme weather events, but it can enable building repairs to occur while employees work from a remote location during short-term disruptions.

1.4.5 Office of the Chief Financial Officer

The Office of the Chief Financial Officer (OCFO) serves as the agency lead for budget, financial services, liability accounting, and controls to facilitate the proper management of the agency's financial resources. The Chief Financial Officer acts as GSA's Performance Improvement Officer and OCFO staff support GSA services and staff offices to improve business cases, resource allocation, process rigor, risk management, and, ultimately, decision-making. The financial risks of climate change will affect private and public institutions significantly, if left unmanaged. OCFO will play a critical role in securing GSA's financial stability.

1.4.6 Office of Government-wide Policy

GSA's Office of Government-wide Policy (OGP) supports fair, efficient and cost-effective management practices across the Federal Government by creating and updating policies for a wide range of issue areas, including acquisition management, personal and real property management, health, and environment and work-life maintenance. OGP incorporates the requirements of federal laws, EOs and other regulatory material into its policies and guidelines. It supplies federal managers with business-like incentives, tools, best practices, and training—including the Federal Acquisition Institute—to encourage full adoption of the policies, an important component for climate risk management.

1.4.7 GSA IT

GSA has minimized its risk through aligning with the overarching principles of the Cloud Smart and Data Center Optimization Initiative programs. All system hosting requirements have shifted to (1) commercially available, secure cloud-computing solutions or (2) energy-efficient, shared service centers through interagency agreements with geographically distributed locations with our federal interagency agency partners. However, while GSA has no owned tiered data centers, many customer agencies do and rely on GSA to offer adequate protection to support their mission-critical information technology (IT) infrastructure. In addition, GSA IT procures all end-user computing and mobile devices eco-label designations (*e.g.*, Energy Star, EPEAT, FEMP) with energy-efficient power settings during operations.

1.4.8 Office of Administrative Services

The Office of Administrative Services (OAS) provides administrative support and services for GSA's 12,000 employees. Part of OAS' mission is to manage GSA's internal fleet, develop workplace requirements for internal GSA organizations (including for PBS) and supply a working

environment where GSA employees can be most productive. Climate change can disrupt employee productivity across the Federal Government and is already having an influence on workplace health and safety and disrupting access to federal sites and systems across the U.S. The GSA workforce needs capacity to cope with, and adapt to, climate change effects both in the workplace and to facilitate safe and reliable access to the workplace.

1.4.9 Office of Civil Rights

The Office of Civil Rights (OCR) administers the Nondiscrimination in Federally Assisted Programs and Activities and the Environmental Justice Program. Disadvantaged and underrepresented communities may be disproportionately impacted by the effects of climate change. Extreme heat, severe storms, reduced air quality, severe droughts, and sea level rise may exacerbate existing environmental and public health challenges facing these groups. GSA must respond to environmental justice issues that impact its federal customers and the vulnerable communities affected by its activities. OCR will play a key role in expanding climate literacy and environmental justice across the agency.

1.4.10 Office of Human Resources Management

The Office Human Resources Management (OHRM) leads human resources support activities for GSA's 12,000 employees. Part of OHRM's mission is to provide a working environment where employees can be most productive. Climate change can disrupt employee productivity across the Federal Government and is already having an influence on workplace health and safety and disrupting access to federal sites or systems across the U.S. The federal workforce will need to build capacity to cope with, and adapt to, climate change impacts both within the workplace and to ensure safe and reliable access in getting to the workplace. OHRM will also play a key role in expanding climate literacy and environmental justice across the agency through investments that strengthen human capital.

1.4.11 PBS Office of Portfolio Management and Customer Engagement Diversity and Inclusion Advisory Board

The PBS Office of Portfolio Management and Customer Engagement Diversity and Inclusion Advisory Board was established by a group of concerned PBS staff members, with the approval of PBS leadership, that came together to find solutions and strategies to address the issue of race relations within PBS' sphere of influence (*i.e.,* workplace culture and communities). The Board's mission is to effect awareness, enlightenment, and positive change as individuals and collectively to build and nurture a work environment where inclusiveness is a reflex, not an initiative. While this group was created by PBS, its membership includes representatives from organizations across the agency. Their work increases awareness of the experiences and challenges of underrepresented demographic groups, including women, racially and ethnically diverse individuals and other vulnerable, disadvantaged populations. The Board also created an environmental justice team to coordinate strategies with partners, business lines and offices, including OCR.

2. GSA Vulnerabilities and Actions to Address

GSA's most recent comprehensive internal vulnerability assessment was completed in 2015 and is based primarily on the Third National Climate Assessment (NCA)[2], the most recent NCA at the time. The tables below discuss the five vulnerabilities that pose the most significant risk to GSA's mission. In the future, GSA will update this assessment, subject to the availability of funding.

1. GSA Real Property (Including Culturally and Historically Significant Properties)	
Climate Threats and Expected Impact	Real property includes buildings and other facilities under the jurisdiction, custody or control of GSA. Real property's vulnerability to climate change is increased through short-term events, such as storm surge[3] [4], drought[5] [6], wildfires[7], and winter storms[8] [9], and longer-term changes in conditions, such as sea level rise[10] [11] [12] [13] [14], permafrost melting[15] [16], increased mean temperature[17], and increased humidity[18]. Historic buildings are at greater risk because of limitations on modifications to these facilities, reducing their adaptive capacity. Renovating federally owned buildings to address climate threats depends on the availability of funding to perform repairs and modifications. COOP plans can enable building repair and maintenance to

[2] USGCRP (U.S. Global Climate Change Research Program). 2014. Climate Change Impacts in the United States. Available at: http://nca2014.globalchange.gov/

[3] USAID (U.S. Agency for International Development). 2014. Addressing Climate Change Impacts on Infrastructure: Preparing for Change.

[4] FEMA (Federal Emergency Management Agency). 2011b. Coastal Construction Manual. Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas (Fourth Edition). Available at: http://www.fema.gov/media-library/assets/documents/3293?id=1671.

[5] London Climate Change Partnership. 2009. Commercial Building Stock and Climate Change Adaptation: Costs, Value and Legal Implications. Available at: http://www.ukcip.org.uk/wordpress/wp-content/PDFs/londons-commercial-building-stock-09.pdf.

[6] Jones Lang Lasalle, 2010. From Sandbags to Solar Panels: Future-proofing UK real estate for climate change resilience. http://www.joneslanglasalle.com/MediaResources/Global/GSP/JLL_UK_Upstream_From_Sandbags_to_Solar_Panels.pdf

[7] USAID, 2014.

[8] USAID, 2014

[9] Gale Associates. 2003. A Guide to Protecting Your Roof from a Snow-Related Failure. Available at: http://www.galeassociates.org/wp-content/uploads/2014/03/A-Guide-to-Protecting-Your-Roof-from-a-Snow-Related-Failure.pdf.

[10] USAID, 2014.

[11] FEMA (Federal Emergency Management Agency). 2011a. Highlights of ASCE 24-05. Available at: http://www.floods.org/PDF/ASCE24_Highlights_1008.pdf.

[12] FEMA, 2011b.

[13] London Climate Change Partnership, 2009.

[14] Larsen et al. 2011. Green Building and Climate Resilience: Understanding Impacts and Preparing for Changing Conditions. University of Michigan; U.S. Green Building Council. Available at: http://www.usgbc.org/Docs/Archive/General/Docs18496.pdf.

[15] Smith, O., and G. Levasseur. 2002. Impacts of Climate Change on Transportation Infrastructure in Alaska. Available at: http://climate.dot.gov/documents/workshop1002/smith.pdf.

[16] Larsen et al. 2011.

[17] USAID, 2014.

[18] USAID, 2014.

	occur, while employees work from a remote location. New building projects, which are subject to funding availability, can use upgraded building materials or design standards to address climate threats, as funding allows. The threats to leased facilities can be managed effectively by assessing climate vulnerabilities to potential sites and selecting a site with minimal risks before a lease is signed. Any facility repairs and modifications are the responsibility of the building owner, unless the lease provides otherwise.
Adaptation Actions and Barriers to Implementation	*Adaptation Actions*—PBS will continue to work with federal customers to set climate protection levels (CPLs)—climate-based, expert-determined benchmarks—at the site and facility scale. PBS adopts CPLs to address factors such as higher summer design temperatures (and the associated need to minimize cooling loads), lower and longer-lasting winter design temperatures and higher flood elevations. CPLs need incorporation across several PBS business lines and programs so they can be reflected in building operating plans, alternative workplace concepts and mobility strategies. *Barriers to Implementation*—GSA has made concerted efforts to build climate literacy with PBS and its customers. However, significant confusion remains around the difference between climate mitigation and adaptation. The Administration's priority on climate change increases demand and the pace required for providing federal buildings with the appropriate levels of adaptive capacity and resilience. There is little time to build understanding of climate risks in PBS and its customer agencies, and this gap could slow the overall progress of addressing climate vulnerabilities to real property. A lack of climate-resistant model building codes and licensed design professionals to design climate-resistant sites and facilities is another barrier to success. Model codes used in the design, construction and compliance process of structures and sites are based on historical climate, and do not reflect the future climate over their service life. It is unlikely that model codes will meet the needs for site-specific climate-resistant design promptly due to the rapidly changing climate and the divergent motivations and beliefs of stakeholders that participate in the code development process. In addition, architectural and engineering design practitioners are not familiar with how to use climate projections to inform design decisions. Designing for climate resilience may also conflict with and frustrate legacy priorities in historic preservation and aesthetics, as the choices to resist, accommodate or retreat may be costly. Renovating federally owned buildings to address climate threats depends on the availability of funding to perform repairs and modifications. GSA leases have additional barriers to implementation. For **leases in existing buildings**, the selection of a leased building located outside of the floodplain and adherence to hydrology requirements represent the key ways to manage climate change risks. As floodplain boundaries change, alternative locations or markets might need to be considered for agencies' space solutions if the availability of existing commercial buildings in climate vulnerable areas is limited. Reduced availability of existing commercial space in climate vulnerable markets could result in added rental costs due to constrained supply and the lack of competition. For **leases in new lease construction projects**, in addition to locating outside of a floodplain and complying with hydrology requirements, new buildings rely on climate-resilient building codes. Without the establishment of climate-resilient model building codes for the private sector, real estate markets may not meet GSA's goals in limiting the effects from climate change on the leased inventory. A customer agency might have a mission-based requirement to locate in an area that does not have resilient model buildings available for lease. Alternative locations or markets for new lease construction projects might need to be considered for agencies' space solutions if the availability of commercial sites and buildings in climate vulnerable areas is limited or if resilient building standards are insufficient. Reduced availability of appropriate locations for new lease construction projects in climate vulnerable markets could result in added rental costs due

	to constrained supply and the lack of competition. In the normal course, tenants need to factor in potential added costs into agency budgets for leased space solutions in both existing buildings and in new lease construction projects. GSA will provide tenant agencies with financial information so that they, in conjunction with their budget review process, can evaluate the relative risk to mission accomplishment, and the availability of funds. In addition, GSA leasing customers have the right to return their space to GSA on 4-months' notice after the first 16 months of occupancy. If customer agencies choose to exercise this right to address concerns related to climate change effects, GSA would be financially liable to pay for the remaining lease term or negotiate a lease buyout. Note that this risk is not unique to climate effects.
Timeline and Tracking Progress	This adaptation action will continue indefinitely, subject to the availability of funding, because new building, lease, renovation, and retrofit projects are a regular part of PBS's mission and business model. Progress can be tracked by the percentage of capital projects reviewed for climate risks per year (goal is to review 100% of capital projects per year) that meet the following criteria: an expected service life of at least 30[19] years for federally owned facilities, mission-critical functions or designated as culturally or historically significant.
Resource Considerations for Managing the Risk	Additional technical staff familiar with climate change that can communicate effectively and train agency leadership and staff developing or implementing projects are needed. As risks to mission-critical sites and facilities are uncovered, mitigation options can be developed and the resources needed can be refined. GSA is currently reaching out to its colleagues in other agencies to assess what training materials already exist and can be incorporated into GSA training with no additional requested appropriations. GSA will evaluate existing financial resources for any additional needs identified subject to FY 2021 and FY 2022 budget plans and will include any necessary requirements in the FY 2023 and beyond budget requests.
Risk Disclosure	GSA is actively working with its Office of the Chief Financial Officer to incorporate all climate change risks into its financial reporting and enterprise risk management systems. OCFO is the agency lead for risk disclosure and management.

2. Information and Communications Technology (ICT) Supply Chain	
Climate Threats and Expected Impact	The vulnerability of ICT supply chains and infrastructure is a function of each asset's or service's exposure to climate change stressors, its sensitivity to those stressors and the adaptive capacity of the agency's operations, as well as infrastructure outside of GSA's control (*e.g.*, telecommunications and energy providers) that supports GSA owned or leased facilities.

[19] This criteria is based on the confidence level of climate projections, not lifecycle factors.

	Wildfire[20] and heavy winds[21] [22] can cause severe damage to ICT infrastructure, and extreme precipitation[23] [24], sea level rise[25], storm surge[26], and winter storms[27] can cause moderate damage, The agency's commitment to developing and maintaining its own COOP plans reduces vulnerabilities to operations; for example, server backups reduce the incidence of lost data or applications while main servers are down. However, when critical infrastructure is severely damaged or destroyed, vulnerabilities of the agency's services are potentially much greater. Vulnerabilities are anticipated to be higher when (1) transmission lines affected are highly important to the broader ICT network and (2) redundancies and contingency plans are not in place.
Adaptation Actions and Barriers to Implementation	*Adaptation Actions*—Through tabletop climate change scenario sessions held with internal staff and customers in 2012 and 2013, GSA evaluated the risks of its ICT supply chain. Using information collected from these sessions, GSA inserted climate risk management requirements into the Enterprise Infrastructure Solutions (EIS) Request for Proposals in 2015. EIS supplies federal agencies with enterprise telecommunications and information technology infrastructure services from a single source. The EIS contract requires all service providers to submit climate change risk management plans, as well as implement basic ICT preventative measures, such as placing telecommunications equipment on rolling carts so they can be moved quickly in the event of impending extreme weather. This $50 billion contract was awarded in 2017 and will continue to offer services to federal agencies through 2022, with two option periods that could extend the contract through 2032. *Barriers to Implementation*—Given the work already completed by GSA, as well as the telecommunication industry's focus on hardening and building redundancies into their infrastructure after facing significant damages from hurricanes and storms over the past decade, there are minimal barriers to implementation.
Timeline and Tracking Progress	The implemented actions minimize risks to GSA's ICT supply chain through the duration of the EIS contract. GSA's Office of Information Technology Category will consult with the appropriate climate adaptation staff to update any climate change risk requirements in future iterations of the contract and other telecommunications contracts.
Resources	Managing this risk is achievable with existing agency resources and budgets. There have been no significant cost increases or impacts to the Acquisition Services Fund (ASF) since FAS implemented risk mitigation requirements to the EIS contract in 2015. As FAS manages this requirement for GSA and its customers, PBS will not require resources to address this vulnerability

[20] California Energy Commission. 2012. Estimating Risk to California Energy Infrastructure from Project Climate Change. Available at: http://www.energy.ca.gov/2012publications/CEC-500-2012-057/CEC-500-2012-057.pdf

[21] ITU (International Telecommunication Union). 2014. Resilient pathways: the adaptation of the ICT sector to climate change.

[22] Rosenzweig, C., W. Solicki, A. DeGaetano, M. O'Grady, S. Hassol, P. Grabhorn (Eds.). 2011. Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation. Technical Report. New York State Energy Research and Development Authority (NYSERDA), Albany, New York.

[23] ITU, 2014.

[24] Rosenzweig et. al., 2011.

[25] ITU, 2014.

[26] ITU, 2014.

[27] ITU, 2014.

	but will keep apprised of FAS' work in their planning process.
Risk Disclosure	GSA is actively working with its Office of the Chief Financial Officer to incorporate all climate change risks into its financial reporting and enterprise risk management systems. OCFO is the agency lead for risk disclosure and management.

3. Water and Wastewater Utilities	
Climate Threats and Expected Impact	Most effects on GSA from climate change on water and wastewater utilities will likely result from increased costs for services. Capital budgets have been restricted and do not offer much flexibility for unexpected events. Wastewater services are most vulnerable in coastal areas where they could be affected by storm surge[28]. However, the effects of those events on GSA would be short-term, and likely would not extend beyond the duration of the discrete outage. GSA's greatest vulnerabilities to actual disruptions in water service could be in areas that experience severe drought and water shortages[29] [30] [31], which disrupt water access at the facility, especially for remote sites like land ports of entry.
Adaptation Actions and Barriers to Implementation	*Adaptation Actions*—GSA will introduce a metric (or set of metrics) that improve the statistical method of annual water reporting, resulting in more relevant analysis, improved and more actionable reporting and reduced water use. This action will be completed with existing staff, and in coordination with CEQ, and there is no additional cost. Reducing water consumption builds the adaptive capacity of federal buildings, because it puts less demand on water utilities overall, especially during periods of drought. GSA will investigate and identify which locations under its jurisdiction, custody or control have experienced severe or long-term persistent drought patterns, or are projected to in the future. Depending upon the results of this research, GSA may develop contingency plans for future potential water service disruptions (*e.g.*, alternate work sites and telework options, and methods to bring potable water to mission critical sites). Any selected actions will be subject to customer requirements and the availability of GSA and customer funding. GSA will investigate developing partnerships with the water and wastewater utilities in highly vulnerable locations to offer onsite water storage to meet mission-critical operational needs, harden infrastructure and increase stormwater capacity over the long term. After investigating these options, any selected actions will be subject to customer requirements and the availability of GSA and customer funding. In addition, GSA will assess the feasibility of tracking saltwater intrusion into freshwater supplies, storm surge damage and increased water costs in coastal locations. Having this data over the long term can support GSA in deciding whether to resist,

[28] U.S. Global Climate Change Research Program, 2014.

[29] USGCRP, 2014.

[30] USAID, 2014.

[31] USGBC (U.S. Green Building Council). 2011. Green Building and Climate Resilience: Understanding Impacts and Preparing for Changing Conditions. Available at: http://www.usgbc.org/Docs/Archive/General/Docs18496.pdf.

	accommodate or retreat at specific sites. *Barriers to Implementation*—GSA has little control over water and wastewater utilities and the decisions they make to build the adaptive capacity of their infrastructure. Depending on the location, the local utility may not be interested in building its adaptive capacity.
Timeline and Tracking Progress	The actions will take place over the next 5–10 years, with follow-on actions likely beyond this timeline. GSA can track progress and success, in part, through annual water reporting metrics (monitoring whether water use is decreasing), the development of a list of the sites most vulnerable to water service disruption, meetings with relevant water or wastewater utilities, and the availability of sea level rise impact data for coastal facilities.
Resource Considerations for Managing the Risk	These actions require staff to collect and analyze data, as well as meet with water or wastewater utilities and other applicable stakeholders (*e.g.*, local government staff). Completing these tasks could require additional staff or contractor support. GSA will evaluate existing financial resources for any additional needs identified subject to FY 2021 and FY 2022 budget plans and will include any necessary requirements in the FY 2023 and beyond budget requests.
Risk Disclosure	GSA is working with the Office of the Chief Financial Officer to incorporate all climate change risks into its financial reporting and enterprise risk management systems. OCFO is the agency lead for risk disclosure and management.

4. Transportation and Transit Access	
Climate Threats and Expected Impact	The vulnerability of transportation infrastructure is a function of each asset's or service's exposure to the climate change stressors considered in this assessment, its sensitivity to those stressors and the adaptive capacity of the agency's operations, as well as transportation infrastructure outside of GSA's control (*e.g.*, state and federal highways and bridges). Sea level rise[32] and storm surge[33] can cause moderate to severe loss of services, while extreme precipitation[34] and wildfire[35] can cause moderate loss of service. The agency's commitment to developing and maintaining COOP plans reduces vulnerabilities to operations; for example, many services can continue via telework (at least in response to short-term disruptions). However, when critical infrastructure is severely damaged or destroyed, vulnerabilities of the agency's services are potentially much

[32] U.S. CCSP (U.S. Climate Change Science Program). 2009. SAP 4.1: Coastal Sensitivity to Sea level Rise: A Focus on the Mid-Atlantic Region. Published January 2009. Available: http://downloads.globalchange.gov/sap/sap4-1/sap4-1-final-report-all.pdf.

[33] Mills, B. and J. Andrey. 2002. Climate Change and Transportation: Potential Interactions and Impacts. In The Potential Impacts of Climate Change on Transportation Federal Research Partnership Workshop, October 1-2, 2002, Summary and Discussion Papers. Sponsored by U.S. Department of Transportation Center for Climate Change and Environmental Forecasting, U.S. Environmental Protection Agency, The U.S. Global Change Research Program of the U.S. CCSP, and U.S. Department of Energy. Available: http://climate.dot.gov/documents/workshop1002/workshop.pdf.

[34] Dawson, A. (ed). 2008. Water in Road Structures: Movement, Drainage, and Effects. Nottingham Transportation Engineering Centre, University of Nottingham, UK.

[35] Peterson, T.C., M. McGuirk, T.G. Houston, A.H. Horvitz, and M.F. Wehner. 2008. Climate variability and change with implications for transportation. 90 pages. Transportation Research Board. Available at: http://onlinepubs.trb.org/onlinepubs/sr/sr290_variability.pdf.

	greater. Vulnerabilities are anticipated to be higher when access to facilities is critical to maintaining operations or fulfilling the mission, such as when access routes are non-redundant, flood-prone or located in areas prone to wildfire.
Adaptation Actions and Barriers to Implementation	*Adaptation Actions*—GSA facilities and offices maintain COOP plans or telework policies for GSA staff that may allow operations to continue, at least temporarily, without access to facilities. Telework practices create flexibility, thereby increasing adaptive capacity. GSA will continue to maintain and adjust COOP plans and telework policies based on the latest information and lessons learned from utilizing these practices during the pandemic. *Barriers to Implementation*—For GSA facilities in areas without a robust public transportation network or with limited access routes, the only option may be for employees to telework. Even in locations with adequate public transportation and access routes, an extreme event, such as a hurricane, can cause significant damage, requiring substantial resources and time to repair. Like water and wastewater utilities, GSA has little control over the prioritization of transportation and transit repairs.
Timeline and Tracking Progress	GSA will continually assess whether COOP plans and telework policies need to be adjusted to account for climatic effects to transit and transportation infrastructure. Measuring and tracking will occur with each significant review of COOP and telework plans and policies.
Resource Considerations for Managing the Risk	Currently, no additional resources are necessary to manage this risk. GSA will monitor and assess whether additional resources are needed over time.
Risk Disclosure	GSA is actively working with its Office of the Chief Financial Officer to incorporate all climate change risks into its financial reporting and enterprise risk management systems. OCFO is the agency lead for risk disclosure and management.

5. Global Supply Chains and Infrastructure	
Climate Threats and Expected Impact	The vulnerability of global supply chains, the infrastructure on which the supply chains rely and GSA's provision of services internally and to its customers is a function of each asset's or service's exposure to the climate change stressors, its sensitivity to those stressors and the adaptive capacity of the agency's operations, as well as materials and services outside of GSA's control (*e.g.*, transportation infrastructure, raw materials, processing facilities, and energy providers). Storm surge can cause severe damage and loss of service to supply chains, while extreme temperature and precipitation, wildfire, and winter storms can result in moderate loss of service and damage[36]. The agency's commitment to developing and maintaining COOP plans reduces vulnerabilities to operations; for example, redundancies in vendors reduce the risk of supply shortages. However, when critical components of global supply chains are severely damaged or destroyed, vulnerabilities of the agency's services are

[36] Younger, J. 2014. Phone Interview with Jay Younger, Office of General Supplies and Services. Conducted by Marybeth Riley-Gilbert, ICF International. 9/15/2014.

	potentially much greater. Events that prevent staff and resources from getting to disaster zones are the hardest situations for which to prepare.
Adaptation Actions and Barriers to Implementation	*Adaptation Actions*—From agency demand, projected exposure and sensitivity to climate risks, the top five critical supplies and services FAS procures are telecommunications, motor vehicles and fleet, professional services (due to reliance on telecom and IT), IT hardware, and IT services (including software and security). As noted in Vulnerability 2, ICT Supply Chain, FAS has addressed risks in its primary telecommunications contract. FAS will develop a plan and timeline to address the vulnerabilities in the remaining four critical supplies and services with available funds. It will also review the next five most critical supplies and services and evaluate the need for further assessments. GSA will develop a decision diagram detailing where climate risk management needs to be considered during the acquisition process. The audience for this diagram will be the GSA acquisition workforce, and this will become a part of GSA's overall climate literacy efforts. Appendix B includes an initial draft of this diagram. *Barriers to Implementation*—Developing climate literacy with the staff managing the four remaining critical supplies and services may take time. Detailed climate risk assessments will be needed to evaluate what requirements should be inserted into contracts that cover these supplies and services to address climate risks. The risk assessments will likely require technical support from contractors and, therefore, funding is needed. The acquisition workforce faces an already significant workload and may push back on incorporating more requirements into the procurement process. The decision diagrams and climate literacy training for this workforce need to consider carefully the use of plain language and clearly point to readily available resources to increase the rate of adoption. If supply chains that support the federal government are not properly prepared for the risks of climate change by the private sector, the unit cost for products and services may increase as companies pass along the costs to repair their supply chains to their customers. Small businesses have a more limited capacity to prepare for climate change risks and potentially meet contractual climate risk management requirements. This may conflict with the goal of increasing small businesses' access to the federal marketplace.
Timeline and Tracking Progress	The Plan and timeline for addressing climate risks in the top five critical supplies and services will be completed by the end of FY 2022. Developing decision diagrams for the acquisition workforce will be completed by the end of FY 2022. Climate literacy training for all applicable GSA staff, including the acquisition workforce, will be developed. Section 4 describes the timeline for this work and how progress will be tracked.
Resource Considerations for Managing the Risk	The estimated cost will be determined over the next year and supported by the Acquisition Services Fund. Developing the decision diagrams and training for the acquisition workforce can be completed by a combination of in-house staff and contractor support.
Risk Disclosure	GSA is actively working with its Office of the Chief Financial Officer to incorporate all climate change risks into its financial

	reporting and enterprise risk management systems. OCFO is the agency lead for risk disclosure and management.

3. GSA Climate Change Adaptation Actions

GSA's five top priority actions to advance climate adaptation and resilience across the agency are discussed below.

1. Integrate Environmental Justice Factors	
Description	Formulate environmental and climate justice criteria, requirements and metrics to inform decisions in real property, services and supply *(new action with some continuation of existing effort).*
Goals	Develop and publish a new environmental justice strategy that aligns with EO 12898, EO 14008 and the White House Environmental Justice Interagency Council's (EJ IAC) guidance. GSA will collaborate across the agency, Federal Government and external stakeholders as a key part of integrating GSA's new environmental justice strategy to support environmentally overburdened, underserved and economically distressed communities.
Agency Leads	OCR, in coordination with FAS, PBS, multiple supporting agency services and staff offices, the ECAC and the Strategic Sustainability Advisory Group (SSAG).
Risk/ Opportunity	Minority and low-income communities are disproportionately impacted by the effects of climate change. GSA must respond to environmental justice issues for our federal customers and the vulnerable communities affected by our activities. As GSA's customer agencies identify and share their resilience requirements at mission-critical sites[37] and in their supply chains, GSA will partner with them to promote resilience, manage risks and furnish space and services to them as they assist vulnerable communities to prepare for and recover from the observed and expected changes in climate, subject to the availability of GSA and customer funding.
Scale	Specific cases of environmental justice (or injustice) take place on highly localized levels; however, the Plan and strategy to address environmental justice applies on a national level.

[37] GSA can propose equitable distribution of federal facilities, but the final determination for these sites is made by Congress.

Timeframe and Implementation	By September 30, 2021, the Administrator will issue a policy statement formally reaffirming GSA's commitment to environmental justice and climate justice by requiring integration of environmental justice in the development of all agency policies and actions (including rulemaking and enforcement). In Fiscal Year (FY) 2021, GSA will assign an Environmental Justice Officer to do the following: ● Convene GSA internal meetings, represent GSA on the Council on Environmental Quality's (CEQ) newly established White House EJ IAC and oversee relevant duties in EO 14008 implementation. ● Reconvene GSA's Environmental Justice Working Group (EJWG) to include representation from the following areas of subject matter expertise: climate adaptation, procurement, sustainability, National Environmental Policy Act (NEPA), FAS/OGP on Federal Surplus Personal Property Donation Program, real property, services, and supply. In FY 2021, the GSA EJWG will produce a five-year environmental justice strategy for GSA promoting and prioritizing environmental justice in compliance with EOs 12898, 13990 and 14008. In FY 2022, the GSA EJWG will do the following: ● Resume publishing annual environmental justice progress reports. ● Review and evaluate GSA's policies, procedures and practices in procurement, real property, information technology, and GSA's federal financial assistance programs to integrate environmental justice principles consistently with Administration priorities and EOs. ● Collaborate with all program offices to address policies, procedures and practices that the EJWG found inconsistent with the policy set out in EO 14008. In FY 2021-FY 2022, GSA will do the following: ● Continue to partner with other Federal agencies to identify opportunities where GSA can add value to joint Federal efforts to address challenges faced by disadvantaged and overburdened communities. For example, beginning in FY 2022, OCR will establish ongoing contact with at least five disadvantaged and overburdened communities each fiscal year to educate them on how the Federal Surplus Personal Property Donation Program may benefit their community and the Computers for Learning program may benefit their schools. ● Create and launch agency-wide training of all employees to promote broad-sweeping knowledge, understanding and commitment to the principles of environmental justice and climate adaptation. This training will be a requirement for all new hires of GSA and will be phased into existing employee training at the same time. In FY 2022, the newly established Environmental Justice and Equity for Federal Green Buildings Task Group, established by the Green Building Advisory Committee and in collaboration with the National Association for the Advancement of Colored People, will form and propose effective approaches to improve environmental justice and equity in federal sustainable building processes, enhancing engagement with communities and key partners throughout the building life cycle. Federal agencies represented include GSA, HHS, NIH, NIBS and USPS. Beginning in FY 2022, OCR will establish ongoing contact with at least five disadvantaged and overburdened communities each fiscal year.

Performance Metrics	By March of each subsequent fiscal year, the EJWG will deliver an annual report to the Administrator of General Services regarding the implementation of these actions, including progress against quantifiable metrics: ● Number of policies, procedures and practices reviewed and updated ● Number of employees completing environmental justice and climate adaptation training ● Implementation of approaches from the Environmental Justice and Equity for Federal Green Buildings Task Group ● Number of communities and external partnerships with which GSA is actively engaged.
Interagency Coordination	Intergovernmental coordination will be conducted through the EJIAC to connect with participating agencies on outreach to disadvantaged and overburdened communities. While GSA is not a named participant of the EJIAC, it can and will work closely with CEQ and the former Federal Interagency Working Group on Environmental Justice (EJIWG) agencies, as needed, and establish any necessary agreements to do so. Please see the Challenges row below for more information.
Resources	FY 2021 actions, including convenings of the EJWG, GSA representation on the EJ IAC and development of the Five-Year Environmental Justice Strategy, will not require additional resources to complete. FY 2022 actions will be in accordance with the President's FY 2022 budget submissions. Resources required to execute actions in FY 2023 and beyond will be identified in conjunction with development of the Five-Year Environmental Justice Strategy; execution will be subject to the availability of funding.
Challenges	Building expertise in the climate adaptation lens of environmental justice across GSA is a critical need, particularly in framing the opportunities and responsibilities across the agency. While OCR is the action owner, initiatives executed under this action will require significant internal and interagency coordination. EO 14008 does not specifically name GSA as a participant in the newly formed EJ IAC managed by CEQ, despite its active role in the former EJ IWG managed by the U.S. Environmental Protection Agency (EPA). GSA will work closely with CEQ and agencies of the EJIAC's committees to ensure GSA's participation outside of the EJIAC does not minimize the agency's influence and opportunity to collaborate with other agencies. GSA plans to remain an active participant.
Accomplishments to Date	GSA will continue to participate in multiple interagency committees (*e.g.*, Rural Communities, NEPA, Goods Movement, Climate Change, and Title VI). The following accomplishments are examples of how GSA's place-based initiatives, federal partnerships and community engagements support environmentally overburdened, underserved and economically distressed communities: ● *Federal Facility Location Policy*, utilized in siting and development of federal facilities, to consider factors that prioritize sustainability and opportunity zones.[38] ● Community engagement partnerships with community leaders and members, small businesses, tribal leaders' industries in the private sector, faith-based organizations, and major recipients of federal financial assistance.

[38] This policy is embodied in draft Federal Management Regulation part 102-83 with OGP, but updates could further prioritize additional climate adaptation and infrastructure goals without the need for any additional EOs.

	• GSA partnered with other federal and state agencies to increase awareness of the availability and benefits of the Federal Surplus Personal Property Donation Program, which is available to state and local government agencies and certain non-profit organizations for the purposes of health and education. • GSA's Smart Location Calculator, developed in partnership with EPA, shows the relative location efficiency of existing and proposed locations for federal facilities. In FY 2021, GSA will explore new uses of the tool to help educate decision-makers on the role that smart location decisions play in combating climate change and promoting equity. • The GSA Center for Urban Development interagency agreement with the EPA Office of Community Revitalization leverages the capital investment of GSA design and construction projects into maximum benefits for host communities, as well as aligning federal facilities siting and design needs to the greatest extent possible with local planning and economic development goals.

2. Requirements Planning and Management with GSA Customers	
Description	Improve requirements planning and management processes with GSA customers using climate information *(continuation of existing effort)*.
Goals	Develop climate data–informed resilience requirements and criteria for FAS and PBS account managers, enabling GSA to supply its customers climate-ready facilities, products and services to achieve their missions.
Agency Leads	PBS Office of Portfolio Management and Customer Engagement and FAS Office of Customer and Stakeholder Engagement (CASE) with additional coordination from business lines that generate criteria, requirements, guidance, and information related to planning and management activities for GSA customers, including the GSA Office of Customer Experience, FAS Office of Enterprise Strategy Management and GSA category managers.
Risk/ Opportunity	GSA must work with its customers to understand how a changing climate, in conjunction with other socio-economic and demographic trends, will affect customer agency missions. This understanding can inform an assessment of mission criticality and help GSA to prioritize customers' risk management needs. If GSA cannot offer climate-resilient supplies, services or spaces over time so that federal customers can operate at full capability, much more is at risk than GSA's mission. PBS and FAS offerings must evolve along with customers' changing needs, so they can assess and respond to climate disruptions. Requirements planning that considers climate risk factors enables GSA to anticipate and support the changing mission of our federal customers, and in turn, secures GSA's role as a premiere provider of federal workplaces, supplies and services.
Scale	National and regional
Timeframe and Implementation	PBS will continue to evaluate the GSA real property portfolio strategy, including investments, condition assessments and disposition opportunities, and guide customer agencies in optimizing their footprints through strategic consolidations and utilization rate reductions. For example, PBS reaches out quarterly through surveys to customer agencies to understand when they plan to return to facilities and the resources needed to do so, as well as to assess building utilization data for long-term portfolio strategy planning. Beginning in FY 2021, PBS will leverage existing opportunities to interface with customer groups to expand information and topic sets, including climate-related information and risks posed to resources procured or managed by GSA. Opportunities include standard messaging and communication

	activities, client enrichment series presentations and national customer forums. Across GSA, in FY 2021, teams will select lead coordinators for each organization charged with planning, implementing and managing GSA customer requirements, and, beginning in FY 2022, screen a variety of processes for improved use of climate information: ● In PBS, review the language in leasing agreements, client planning agreements, energy commodity contracts, operations and maintenance contracts, and other formal planning and contractual documents (as appropriate) for areas to insert climate-related considerations, as well as environmental justice criteria to avoid maladaptation.[39] Implementation may be subject to availability of funds and customer concurrence. ● In FAS and OGP acquisition programs, review the category management framework for the six categories GSA manages to uncover significant climate risks category by category and consider opportunities to incorporate climate adaptation and risk management considerations into best-in-class criteria.[40] Also, evaluate opportunities to require documentation of risks and mitigations in supplier risk plans for internal GSA individual buys. ● Assess the need for a framework that establishes appropriate processes and contingencies when climate-related events damage or destroy supplies. ● Evaluate GSA's market research and requirements development tools to add questions related to climate risk and disruption, such as the FAS's Market Research as a Service. GSA Fleet will implement strategies and actions to mitigate climate risks to its inventory of leased vehicles. Risk mitigation actions may include the following: ● Providing a contracting vehicle to simplify the acquisition of vehicle recharging infrastructure and ensuring a broad range of products are available as customer requirements shift toward solar, energy storage, off-grid, and portable options. ● Installing[41] telematic devices on all federal vehicles leased through GSA (with the exception of exempt vehicles) to enhance data collection and assist with mitigating vehicle loss and damage during extreme weather events and better understand vehicle usage. ● Mitigating liability by partnering with utilities and others to serve as owners of charging infrastructure, consistent with fiscal law and budgetary guidance. ● Modernizing GSA's fleet management system to improve data collection and ensure a proactive, climate-ready approach to fleet management. ● Coordinating closely with its customer agencies to ensure optimal geographical placement of vehicles and operation and maintenance procedures.

[39] Maladaptation is defined in the *Intergovernmental Panel on Climate Change Fourth Assessment Report* as "...actions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future."
[40] Category management is an approach the Federal Government applies to buy smarter and more like a single enterprise. It selects core categories of spend and develops heightened levels of expertise, shares best practices, provides streamlined solutions, and manages supply and demand for each of the categories.
[41] Telematic devices are plugged into the On-Board Diagnostics II (OBD2) port at the point of delivery and are not installed at the factory.

Performance Metrics	As new processes and criteria are established and implemented across GSA, potential performance metrics could include the following: ● Percentage compliance or number of customer engagements with new criteria implemented ● Number of education and enrichment opportunities with climate-focused topic sets presented to current and future customers ● Customer satisfaction survey scores specific to climate-ready facilities, supplies and services ● Inclusion of climate-related requirements planning responsibilities in performance plans for applicable GSA staff ● Completed actions in updating planning tools, procurement categories and frameworks.
Interagency Coordination	This action requires significant coordination across GSA's federal, State and local customers and federal councils and interagency working groups (*e.g.*, Federal Real Property Council, Federal Facilities Council and Federal Acquisition Regulatory Council).
Resources	Major strategy development will occur over FY 2021–FY 2022 to find and prioritize opportunities for process improvements and will include identification of significant resource needs (funding and human capital investments to build or rebuild expertise to execute actions over time). Some low- and no-cost actions can be completed without added funding, such as minor updates to existing communications, engagement activities and tools. Execution of larger activities will be subject to the availability of funds and consistent with enactment of future year budget requests.
Challenges	Agencies are unsure of current and future portfolio planning efforts due to the pandemic. Federal agencies are currently evaluating policies and the impact of a change on current and future space decisions consistent with Administration guidance. GSA will leverage its Future of Federal Work program to integrate reduced and changing demands from the potential change in agency space requirements, including potential long-term increase in telework. Shifting the acquisition workforce to again focus on integrating climate risk management measures into GSA's contracts and offerings will take time. Confusion continues regarding the difference between climate adaptation and mitigation, as well as which climate-focused acquisition-related requirements are in force. The PBS and FAS agency leads are prioritized for increased climate literacy training.
Accomplishments to Date	Topic 3 describes ongoing activities related to PBS use of climate information in requirements planning and management for climate-ready facilities. PBS and FAS can leverage lessons learned from shifts in demand for buildings, products and services due to the COVID-19 pandemic, such as emergency acquisition flexibilities to mitigate the risk that critical supplies and services are unavailable as the result of a severe climate event. For example, FAS helped agencies acquire critical supplies during the COVID-19 pandemic by limiting competition for unusual and compelling urgency, utilizing waivers for AbilityOne® and the Trade Agreements Act, and obtaining the authority to issue rated orders under the Defense Priorities and Allocation System. Using information collected from climate change scenario sessions held with GSA staff and customers in FYs 2012–2014, FAS integrated climate change risk management reporting requirements and basic climate risk mitigation practices into EIS, a $50 billion governmentwide telecommunications contract. To help federal agencies assess their own vulnerability and manage climate-related supply chain risks, GSA created a framework for Managing Climate Disruption Risks to Federal Agency Supply Chains. The framework outlines the process for assessing climate risks to supply chains and formulating plans to minimize those risks. The PBS lease cost avoidance strategy's success highlights the importance of close continued engagement on customer requirements and the substantial value and impact customer requirements planning can unlock.

3. Obtain Localized Data to Evaluate Flooding Risk to GSA Buildings	
Description	Develop portfolio-wide vertical datum (*i.e.*, height above mean sea level) and integrate it into portfolio management information systems and asset business planning *(continuation of existing effort)*.
Goals	Update and Integrate portfolio-wide vertical datum into asset business plans and asset management systems to update the site selection process and Real Property Acquisition Handbook.
Agency Leads	GSA PBS Office of Portfolio Management and Customer Engagement with supporting organizations, including the Office of Federal High-Performance Green Buildings and multiple internal stakeholder organizations that will utilize updated guidance.
Risk/ Opportunity	Flooding can severely damage federal facilities and impact an agency's operations and ability to fulfill its mission. Federal buildings in high-risk areas can require special mitigation measures, such as structure elevation, building system and cabling placement, and additional envelope protection. Given GSA's repair backlog, extreme weather events present significant risks to the federal real estate portfolio. Failure to mitigate these risks could result in even costlier expenditures following a natural disaster. A large portion of federally owned buildings under the jurisdiction, custody and control of GSA were sited and constructed prior to 1974 using now outdated versions of FEMA flood maps and, as such, do not reflect later updates to 100-year and 500-year flood risk. Furthermore, current FEMA flood map determinations do not include climate change factors. New data that appropriately addresses climate change and flood plain dynamics must be incorporated into the process. Without portfolio-wide vertical datum and information, it is not possible to evaluate flood vulnerabilities for buildings (or other horizontal assets) accurately and subsequently estimate flood mitigation project costs and time frames for project execution.
Scale	Specific cases of vertical datum and corresponding climate effects take place on highly localized levels; however, the Plan and strategy to address vertical datum applies on a national level.
Time frame and Implementation	GSA will follow processes of the U.S. Army Corps of Engineers and other components of DoD that have been directed and funded to evaluate resilience to flooding and other factors (see FYs 2020 and 2021 Defense Authorization Acts). Combining vertical datum with assets with observed flooding, technical investigation of the hydrologic and hydraulic aspects will be conducted for each site, as well as evaluation of at grade and below grade conditions of the building enclosure and critical equipment flood resistance. These efforts encompass the due diligence site analysis of standard American Society of Civil Engineers 24-14 Flood Resistant Design and Construction, including the five primary flood hazard types: fluvial (river flooding and erosion due to extensive rainfall over time), pluvial (terrain with standing surface water), flash floods (heavy precipitation and erosion or rapid snow thaw), coastal (sea level change, winds, and storm surge and erosion), and urban (stormwater drainage systems unable to handle extreme precipitation, erosion or scour).
Performance Metrics	Number of buildings located in/out of specified flood plains (100-year versus 500-year). Value of assets located in/out of flood plains. Number of projects with vertical datum integrated into site selection, future considerations, engineering retrofits, etc. Each project would include the proposed flood resistant measures, the costs to implement and methods to monitor and evaluate changing conditions.

Interagency Coordination	GSA, FEMA, U.S. Department of Veterans Affairs, Department of Defense, and other landholding agencies.
Resources	GSA estimates that it would take approximately 30 months from the initial contract award and approximately $16,000,000 to undertake a two-part process of assessing its federally owned inventory and evaluating the costs as a result of the nationwide assessment. The proposed source of the funding is the FY2022 Climate and Resilience Special Emphasis Program.
Challenges	Building-level data to evaluate at grade and below grade conditions adequately for building enclosure, critical equipment and observed flood events is not centralized and will require a major collection effort, potentially necessitating additional staff or contractor support. In addition, the funding needs estimated above reflect the initial flooding risk assessment effort. The required investments to implement adequate adaptation measures for mission-critical facilities or execute managed retreat will be significant, and implementation of necessary actions will be subject to the availability of funds.
Accomplishments to Date	GSA's proposed strategy for obtaining vertical datum was incorporated in a 2020 report to the House and Senate Committee on Appropriations' Subcommittee on Financial Services and General Government. This action will begin when funds are available to build the required data set.

4. Identify, Assess, and Manage the Financial Risks of Climate Change	
Description	Integrate considerations for the financial impacts of the physical and transition risks of climate change into GSA decision-making processes *(new action).*
Goals	Manage GSA's internal climate-related financial risks to ensure continued delivery of GSA's mission and financial stability over the short- and long-term.
Agency Leads	GSA's Chief Financial Officer, in coordination with other applicable programs across GSA.
Risk/ Opportunity	This action builds understanding in GSA about the financial risks of climate change and how to address the risks. A 2015 study by *The Economist*'s Intelligence Unit noted the financial losses to the public sector from climate change could reach $43 trillion, more than three times the financial impact the private sector may face.[42] The financial risks of climate change pose such a significant threat that "Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks" was added to the U.S. Government Accountability Office's (GAO) High-Risk List. Federal agencies are held accountable by GAO to manage items on this list. GAO's 2021 High-Risk Report noted that the Federal Government has yet to make measurable progress to reduce its fiscal exposure to climate change.

[42] "The cost of inaction: Recognising the value at risk from climate change." 2015. *The Economist*, Intelligence Unit. https://eiuperspectives.economist.com/sustainability/cost-inaction.

Scale	The planned action is national in scale. Inputs to the action may be global, national, regional, or local.
Timeframe and Implementation	From FY 2021–FY 2026, GSA will do the following[43]: ● Adapt and implement the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, as feasible and subject to the availability of funds, including integrating GSA's climate-related financial risks into GSA internal organizational governance, strategy, risk management, and metrics and targets. ● Complete a scenario analysis for GSA internally following the TCFD recommendations. ● Explore the integration of climate risk data into GSA's internal accounting process (*e.g.*, forward-looking information, management discussion and analysis, deferred maintenance, and contingent liability). ● Develop an industry-accepted method of including climate change risk and associated costs into life-cycle cost analysis for major GSA investments in buildings, products and services.
Performance Metrics	Potential metrics to assess performance will be finalized between FY 2021–FY 2022 and could include the following: ● Dollars spent versus dollars of damage and disaster avoided, quantitative value-at-risk to climate hazards. ● Integration of the financial risks of climate change into the next iteration of the GSA Strategic Plan. ● Disclosure of climate-related financial risks.[44] ● Inclusion of GSA-specific climate-related financial risk management responsibilities in performance plans for applicable GSA staff. ● Development of metrics or targets for leadership commitment, capacity, action plan, monitoring, and demonstrated progress.
Interagency Coordination	To address GSA-specific activities, GSA may also need to coordinate with the Department of Homeland Security (including FEMA and the National Flood Insurance Program), the Executive Office of the President, the U.S. Global Change Research Program (USGCRP), the Department of Energy's Federal Energy Management Program, and the U.S. Energy Information Administration.
Resources	This action will require additional resources for training and coordination activities to evaluate and disclose climate-related financial risks adequately. GSA's FY 2022 request for the Federal Buildings Fund included $100 million for a climate and resiliency special emphasis program, but that funding is for making building upgrades, not for identifying climate-related financial risk. GSA will have to look to realign funding in FY 2021 and FY 2022 to address this need.
Challenges	Climate-related financial risk management is a nascent, yet rapidly growing, field. International initiatives, such as TCFD and the Network of Central Banks and Supervisors for Greening the Financial System, have largely focused on the private sector and national-level financial systems. While lessons can be learned from these practices, adapting them to GSA will take time, with likely unforeseen barriers and the need for additional research causing delays in implementation. It is challenging to quantify cost avoidance, though methods of doing so should be explored by the Federal Government. Qualitative

[43] These actions may need to be adjusted based on future guidance and reports issued as a result of EO 14030, Climate-Related Financial Risk, requirements.

[44] This performance metric may need to be adjusted based on future guidance and reports issued as a result of EO 14030, Climate-Related Financial Risk, requirements.

	metrics, such as the inclusion of climate-related financial risks in planning documents and processes that establish decision-making requirements, can lead to success, but quantitative metrics are often helpful for characterizing the size of the risk and understanding how well financial risks are managed.
Accomplishments to Date	GSA has reviewed about 100 capital projects since 2014 for new construction and major renovations based on specific requests from the capital project team and, by leveraging climate science and information developed by the USGCRP, to assess the observed extremes and expected long-term changes during an asset's service life. GSA has not conducted a cost-benefit analysis to assess the amount of money saved through the review process. GSA integrated climate change risk management reporting requirements and basic climate risk mitigation practices into EIS, a $50 billion governmentwide telecommunications contract. These requirements likely reduce the financial risks of climate change to GSA and EIS customer agencies, but this information is not tracked.

5. Update the Building Assessment Tool	
Description	Integrate methods to monitor and evaluate changing climate conditions in the Building Assessment Tool (BAT) to inform prudent capital investment and asset management *(continuation of existing effort).*
Goals	GSA/PBS is planning to make enhancements to the BAT system to identify, quantify and prioritize climate change risks and liabilities.
Agency Leads	GSA/PBS/Office of Portfolio Management and Customer Engagement.
Risk/ Opportunity	To obtain a better understanding of the condition of the GSA portfolio and its ability to respond to climate change threats, PBS needs to project future liabilities more accurately. Additional questions within the BAT are in the process of being added to evaluate climate change risks and to provide a more complete assessment of building liabilities. GSA is currently offering BAT training to improve the skill set and data reporting of BAT users. The BAT currently underestimates 10-year forward looking investment liabilities (such as climatic events) and certain assumptions must be made to estimate total investment needs from the data. It is, therefore, difficult for portfolio-level asset managers to anticipate future financial performance and sustainability.
Scale	BAT improvements offer a better understanding of the entire portfolio for which GSA has repair and alteration responsibility. The scale will impact such assets nationwide.
Timeframe and Implementation	For FY 2021–FY 2023, continue to take incremental steps to incorporate documented BAT enhancements until significant upgrades are funded. PBS is making incremental changes with existing funds until the system is modernized.
Performance Metrics	Potential performance metrics: ● Total portfolio dollar value of climate change liability (GSA only) within 10 years.

	● Per building dollar value of climate change liability (GSA only) within 10 years. ● Total portfolio dollar value of immediate climate change liability (GSA only). ● Per building dollar value of immediate climate change liability (GSA only).
Interagency Coordination	The improvements will be measured qualitatively and quantitatively. In addition, BAT survey sections will address improvements in the data GSA collects around its assets and quantitative improvements will be made to address the algorithms used to estimate deficiency costs.
Resources	Existing FY 2021 accelerated funding is being used to implement necessary enhancements, and this funding will continue to be available into FY 2022. Additional training will be required for BAT users so that they properly understand, extract and apply outputs from the updated tool. GSA will include any necessary requirements in FY 2023 and beyond budget requests.
Challenges	Capturing accurate data in the BAT regarding building equipment, shell of the building, and estimated costs is a challenge. Incremental upgrades will occur to address these challenges until significant system modernization upgrades are funded.
Accomplishments to Date	Utilizing existing FY 2021 funding, PBS is in the process of beginning updates to the BAT and training for the tool.

4. Enhancing Climate Literacy in GSA's Management Workforce

Promoting climate literacy and consistent integration of climate information enables informed decision-making and a more comprehensive risk management approach. Improving GSA's climate literacy will require developing and updating agency training programs, resources and tools, principally coordinated through the Chief Human Capital Officer (CHCO) (as part of the ECAC) and the SSAG, to harness expertise across the agency. Long-term implementation will require future human capital investments to increase overall proficiency in the GSA workforce, as well as in recruiting new expertise.

4.1 Priority Offices Targeted for Climate Literacy Training

Near-term actions to advance climate literacy will prioritize building knowledge in the organizations principally tasked with executing prudent risk management activities to address the top five vulnerabilities discussed in section 2 and executing the top five actions established in section 3. The mission, authority, scale of financial decision-making, and alignment these offices have in carrying out agency and federal priorities further underpins the need for climate literacy training. These priority organizations are as follows:

1. Office of the Chief Financial Officer: Implementation of Action 4, to manage the financial risks of climate change, requires OCFO to consider each of the top five vulnerabilities that have potential significant material impact to GSA (and other existing and future climate-driven risks) and integrate climate-related financial risk considerations into GSA's governance, strategy, risk management, and metrics and targets. This puts the OCFO at the top of the list of organizations targeted for climate literacy training, where technical decisions made across all of GSA's business lines are collectively leveraged, resourced and implemented.
2. FAS Office of Customer and Stakeholder Engagement: As co-owner of Action 2, the organization principally responsible for overseeing risk management strategies that address vulnerabilities 2 and 5, and a key stakeholder in executing a variety of future actions that ensure a steady, climate-ready supply of products and services, CASE supplies enterprise-wide representation of the value of FAS to agency customers and of the needs of agency customers to FAS. Shifting the acquisition workforce toward integrating climate risk management measures into their processes will take time.
3. PBS Office of Portfolio Management and Customer Engagement: As co-owner of Action 2, primary owner of Actions 3 and 5, the organization principally responsible in overseeing risk management strategies that address vulnerability 1, and a key stakeholder in executing a variety of future actions that supply future climate-ready facilities, it is critical to increase the number of technical staff familiar with the risks of climate change. Increased literacy will lead to the development and implementation of climate-ready projects.

4. Office of Civil Rights: Implementation of Action 1 reinforces OCR's role in leading collaboration across the agency, Federal Government and external stakeholders to integrate GSA's new environmental justice strategy into supporting environmentally overburdened, underserved and economically distressed communities. Increased climate literacy training will help OCR effectively develop and launch more comprehensive agency-wide training to promote broad-sweeping knowledge, understanding and commitment to the principles of environmental justice with regard to climate adaptation.
5. OGP Office of Acquisition Policy, Integrity & Workforce: This office establishes and implements federal acquisition policies and delivers training and education across the federal acquisition workforce. It will, therefore, play a critical role in integrating climate risk management into future GSA and federal-wide procurement strategies that can reduce climate-related impacts to significant federal investments and ensure the acquisition workforce is knowledgeable on emergency procurement for disaster relief.
6. OGP Office of Asset and Transportation Management Policy: This office establishes evidence-based governmentwide policies and regulations that help federal agencies improve the effectiveness and efficiency of managing their assets and transportation. It will play a critical role in integrating climate risk management into policies and regulations for real property and motor vehicles.
7. Office of Administrative Services: This office provides administrative support and services for GSA's 12,000 employees. Part of OAS' mission is to manage GSA's internal fleet, develop workplace requirements for internal GSA organizations (including for PBS) and supply a working environment where GSA employees can be most productive. OAS will play a critical role in managing climate risks to GSA's internal assets.

A significant number of internal stakeholders responsible for integrating and advancing results from GSA's actions across Heads of Services and Staff Offices and GSA regions are identified throughout this Plan. Over time, other critical organizations will be targeted for climate literacy training and, in many cases, future training and resources will be available to all GSA organizations.

4.2 Timeline and Measures to Monitor Progress

GSA plans to deliver tailored climate literacy and environmental justice training to the seven key organizations on the following schedule:

- FY 2021–FY 2022: GSA will assess the availability of resources, training curriculum, and the extent to which climate information may be integrated into decision-making (use of climate information is highlighted in Topic 3). Further, organizations will identify knowledge gaps in the use of climate data and environmental justice criteria and develop plans that identify existing resources for investments in programs to train or recruit to meet gaps and submit plans to the CHCO and OHRM.
- FY 2022–FY 2023 (and ongoing): OHRM and CHCO will work with these organizations to review plans, find available training to fill knowledge gaps or fund and execute priority hiring actions, subject to the availability of funds. This may include contracting out

curriculum development, depending on organizational needs, and developing new content in GSA's Online Learning University. Organizations will internally report progress in filling gaps to the GSA Senior Official, utilizing agreed on metrics to represent best practice in workforce development to achieve the desired end state:

- Training existing workforce:
  - Number of employees or organizations with established training goals tied to performance plans
  - Number of completed training hours or employees completing curriculum
  - Dollars invested in professional education and development
  - Where possible, competency scores to test training effectiveness
- Developing workforce through hiring actions:
  - Number of completed hiring actions and change in full-time equivalent employees (FTE)
  - Average time-to-hire
  - Level of technical competency of new hires (*e.g.*, number of advanced degrees or key credentials).

Focusing investments in advancing climate literacy for the top organizations does not preclude offering general climate literacy training opportunities across the full GSA workforce. A GSA climate literacy community of practice can find and leverage training curriculum, speaker series and events where limited resources are required to refresh or add topics that present climate and environmental justice topics tailored to the audience. Numerous organizations across GSA have found such opportunities, including future updates to the Essentials of Facility Management Training (PBS Office of Facilities Management), added coverage of these topics in GSA-sponsored conferences and speaking events, and revising standard messaging and communications with clients and stakeholders across a range of engagement activities.

5. GSA Actions to Enhance Climate Resilience

GSA leverages an internal consultancy, a small group of climate, facilities and acquisition experts, to support business lines with integrating climate risk management into management processes.

5.1 Actions for Climate-Ready Sites and Facilities

5.1.1 Criteria and Requirements

5.1.1.1 New Construction and Major Modernization Projects

PBS partners with its customer agencies and multiple design experts to evaluate the appropriate criteria and processes to design and construct sites and facilities that are climate-ready. This includes design standards and performance criteria required by the *Facilities Standards for the Public Buildings Service*, PBS-P100. Capital projects are flagged for review if they have an expected service life of at least 30 years, supply a mission-critical function or are designated as culturally or historically significant. These assets have been mapped by their

financial value and projected vulnerability in the PBS ARCGIS Online platform.

The Office of Portfolio Management and Customer Engagement safeguards GSA's assets for their intended service life by integrating climate risk management methods into real estate portfolio management, asset business strategies, portfolio analysis, capital allocation, and other relevant activities. As capital investments are approved, or significant reimbursable work is received from customers, during the project formulation phase, GSA studies climate risk factors. Climate risk factors can inform decisions for any forthcoming space consolidation actions. Federal policy and variable funding levels can affect this process.

The Office of Design and Construction safeguards GSA's assets by integrating risk management methods into the creation of forward-looking design, facility standards and performance criteria areas of urban development, architecture, engineering, construction services, and project management, as well as interagency relations and national professional organization liaisons in the aforementioned disciplines. GSA interfaces with pertinent code-making bodies to develop new standards, codes and regulations that better equip sites and facilities to handle climate risks, comply with emerging standards (*e.g.*, hurricane codes) and incorporate resiliency as a fire and life-safety measure.

5.1.1.2 Leases

The PBS Office of Leasing safeguards over 8,000 leased spaces by encouraging or requiring—in compliance with federal statutory requirements or applicable building codes and standards—that resilience, safety, and sustainability procedures are in place and maintained in privately owned, leased locations. Requirements include avoiding leases in floodplains, protecting site hydrology, improving energy and water efficiency, and protecting indoor environmental quality. Floodplain evaluations and processes minimize the effect of government occupancy on the environment and reduce risks to the government. Building owners of leased facilities are responsible for all costs associated with meeting the terms of the lease contract, thereby reducing or eliminating GSA responsibility for maintaining the premises and the associated costs.

GSA leases are primarily structured as fully serviced with an all-inclusive rental rate that includes the base lease rate plus operating expenses (property taxes, insurance and common area maintenance). Energy efficiency improvements made to a leased building benefit GSA tenants in the form of reduced operating expenses. GSA receives offers and reviews operating expenses against market rates and known building conditions and negotiates the best rate for the government. GSA may also periodically adjust operating costs during the life of the lease, depending on physical and operational changes.

5.1.2 Process Improvements

5.1.2.1 Existing Buildings Operations and Maintenance

As customers identify vulnerable mission critical sites through their own climate change risk management activities and share this information with GSA, GSA partners with them to find and

avoid maladaptation. Real property adaptation actions may vary across a spectrum of protection, accommodation or retreat. Preparing agency staff to have the capability, confidence and capacity to implement this emergent aspect of risk management successfully requires ongoing focus, resources and leadership support.

As described in Action 3, developing portfolio-wide vertical datum will advance building-specific understanding of sensitivity and exposure to flooding risk over time. This will aid in prioritizing facilities that require enhanced risk management measures to minimize damage and disruption from flooding events, including the protection of below grade equipment via installation of pumping stations and installation of above ground power sources for emergency backup to critical lighting and equipment.

PBS's Office of Facilities Management (OFM) issues operational guidance for extreme heat and cold conditions to manage occupant thermal comfort and energy demand, as well as to assist federal staff with planning for interruption of utilities and disruption of customer services to surrounding communities. In partnership with the GSA Office of Federal High-Performance Green Buildings, OFM plans to continue the piloting of remote indoor environmental quality and occupancy sensor networks to protect occupants, reduce risks from outdoor contaminants and improve employee comfort and safety against climate-driven hazards[45]. OFM's *Guiding Principles for Existing Buildings* program includes climate risk and adaptation criteria as part of its four-year reassessment process.

Appendix B includes a high-level decision diagram of current and future opportunities to integrate climate information to advance climate-ready facilities across their life cycle.

5.1.3 Equitable Distribution of Environmental Risks and Benefits

The GSA Center for Urban Development/Good Neighbor Program leverages the capital investment of GSA design and construction projects into maximum benefits for host communities, as well as aligning federal facilities siting and design needs to the greatest extent possible with local planning and economic development goals. An updated location policy for federal facilities, Federal Management Regulation (FMR) Part 102-83, is under consideration, and the Center for Urban Development will review the draft to incorporate, where appropriate, policy that guides federal agencies to consider the risks of climate change in the siting of federal facilities and selection of leased locations. This is an ongoing revision under consideration to incorporate EO 13946, among other terminology changes needed to update FMR Part 102-83. GSA will review the current draft language to determine whether including a discussion of climate change risks is appropriate. Beyond the Good Neighbor Program, activities under Action 1 in this Plan, Integrate Environmental Justice Factors, along with GSA's Sustainability Plan, which includes an action item to develop an Environmental Justice and Equity (EJ x E) Framework, will develop criteria to advance equitable distribution of environmental risks and

[45] Subject to funding. GSA will evaluate existing financial resources for any additional needs identified subject to FY 2021 and FY 2022 budget plans and will include any necessary requirements in the FY 2023 and beyond budget requests.

benefits and to avoid maladaptation.

5.2 Actions for Climate-Ready Supply of Products and Services

5.2.1 Criteria and Requirements

GSA will expand on prior efforts (see Action 2, Accomplishments to Date) to incorporate climate risk management considerations into acquisitions for the most critical supplies and services at risk to disruption by acute or chronic long-term climate change. Based on demand, projected exposure and sensitivity to climate risks, the top five critical supplies and services FAS procures for the agency are as follows:

- Telecommunications
- Motor Vehicles and Fleet
- Professional Services (due to reliance on telecom and IT)
- IT Hardware
- IT Services (including software, security).

The FAS Acquisition Council (FAC) will begin reviewing external-facing acquisitions in these areas valued at $100 million or greater (inclusive of all options) to ensure climate risk is considered at various phases of the acquisition life cycle. The FAC reviews acquisitions at different phases and offers feedback to FAS heads of contracting activity and acquisition teams in a collaborative effort to produce successful procurement outcomes. Appendix B includes a high-level decision diagram with various points when climate risk management can be integrated into the acquisition process for climate-ready products and services. Additional information on GSA's plan and timeline to address the five critical supplies and services are described in Section 2, Table 5, Global Supply Chains and Infrastructure.

To protect the most vulnerable supplies, the agency will work to locate a diverse pool of contractors with a focus on “Made in America,” when available. GSA will also open communications with its contractors to further understand their risk mitigation and logistics planning for these items. In addition, the agency will ensure that it maintains an inventory of back-up IT hardware in its regional offices, especially those that are the most vulnerable to climate change.

5.2.2 Process Improvements

5.2.2.1 Acquisition Policy

OGP is exploring amending acquisition planning policy in both the GSA Acquisition Regulation (GSAR) and the GSA Acquisition Manual (GSAM). The proposed change would amend acquisition planning so that climate adaptation is addressed early in the acquisition process. The agency will further support this change by exploring additional guidance that a climate risk subject matter expert be invited to participate on acquisition review boards. If amended, these changes would place climate adaptation at the forefront of contract planning so that it is prioritized before the contract is solicited, supporting a cultural shift in the acquisition workforce

to focus on climate-ready acquisition solutions.

The agency anticipates that additional policy changes will need to be adopted. However, in preparation for those changes, several preliminary steps will be pursued to achieve longer term goals. GSA is exploring applying supply chain risk management acquisition processes to addressing climate change risks, such as supplying supplemental guidance for the acquisition workforce, and including template language from successful acquisitions that required climate risk management planning for contractors. This method will encourage consistency of requirements to enforce supply chain resilience and create standardization prior to implementing these changes into formal policy.

GSA will explore long-term acquisition strategies to improve contract results, as well as communications, with industry partners. As appropriate, the agency may ask contractors to furnish climate risk management plans as part of contract compliance. To enforce this behavior, GSA is looking into including in the submittal and maintenance of the contractor's climate risk management plan as part of the contract's performance metrics reported in the Contractor Performance Assessment Reporting System (CPARS). This pilot program can be applied to the task order level to see whether it improves the likelihood of contractor performance. CPARS ratings are critical in assessing past performance for a new award as well as in supporting the decision to exercise a contract's option year. If climate risk management becomes part of the decision to not only initiate a business relationship, but to continue with one, the expectation is that industry will change business practices to plan for climate change.

5.2.2.2 Category Management

Category management is an approach the Federal Government applies to buy in a managed way reflecting the priorities of the Administration. It involves identifying core categories of spend, and developing heightened levels of expertise, sharing best practices, providing streamlined solutions, and managing supply and demand, for each of the categories. As the lead agency for six categories, GSA will evaluate how to update the category management framework to include recognition of major climate risks on a category-by-category basis and consider opportunities to incorporate climate adaptation considerations into best-in-class criteria. See Action 2 for more information.

5.2.2.3 Disaster Purchasing, Global Supply, and Retail Operations

As part of GSA's response to acute climate changes, the Disaster Purchasing Program allows State and local governments to buy supplies and services directly from all GSA Schedules to facilitate recovery from major disasters or disaster preparation and response, so long as purchases are made in response to a Presidential declaration under the Stafford Act. As extreme event patterns change, the demand for products purchased by State and local governments is expected to increase, and the types of products needed are likely to change, as well. The Global Supply and Retail Operations programs may adjust their offerings to customer agencies' needs because of changing climate conditions.

5.2.2.4 Fleet

GSA manages its own internal fleet of vehicles as well as supplies vehicle leasing and purchasing services through FAS/GSA Fleet to federal agencies across the United States and overseas. The Office of Administrative Services (OAS) manages GSA's internal fleet, which is entirely leased from GSA Fleet. Vehicle assets are particularly vulnerable to extreme weather, creating issues with vehicle performance, fuel stability and quality, disruptions to fuel and electric charging supply chains, and vehicle damage. OAS will continue to partner and participate in GSA Fleet pilot programs to acquire and sustain the right type of vehicles for the location, including climate risk factors, such as extreme events of heat, hail, and flooding over the life cycle of the vehicle lease. Future climate risk management actions GSA Fleet will take collaboratively with its customers are described in Action 2.

5.2.3 Equitable Distribution of Environmental Risk and Benefits

GSA will work to advance equitable distribution of environmental risks and benefits and to avoid maladaptation by working with industry partners to develop and utilizing acquisition best practices, in balancing equity, economic recovery and climate needs in the acquisition process. Climate experts may be invited to participate in acquisition review panels to assist in avoiding maladaptive outcomes. In addition, GSA will consider conducting thorough responsibility determinations in which a company's business ethics, including how they are addressing issues of environmental justice and ensuring offerings are available to vulnerable communities (including through the Disaster Purchasing Program), is explored to ensure that the Government avoids maladaptation. Beyond these activities, Action 1 in this Plan, Integrate Environmental Justice Factors, along with GSA's Sustainability Plan, which includes an action item to develop an Environmental Justice and Equity (EJ x E) Framework, will develop criteria to advance equitable distribution of environmental risks and benefits and to avoid maladaptation.

Appendix A. GSA Policy Statement

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GENERAL SERVICES ADMINISTRATION
Washington, DC 20405

GSA POLICY AND PROCEDURE

SUBJECT: Response to Climate Change through Climate Adaptation and Climate Risk Management

1. Purpose. This policy statement reaffirms the U.S. General Services Administration's (GSA) commitment to integrate climate change adaptation and planning actions into its decision-making processes, programs and operations. The policy assigns responsibility for implementing the Climate Change Risk Management Plan (the Plan) requirements in accordance with section 211 of Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, and its associated guidance. The Plan identifies how climate change impacts GSA's ability to achieve its mission, programs, policies, and operations. It identifies and prioritizes climate risk management actions and proposed mechanisms to evaluate progress, screen for and advance environmental justice and enhance GSA's capacity to adapt to climate impacts effectively. By developing and integrating forward-looking climate information into its programs, operations and business model, GSA will be able to execute its mission and operations securely, effectively and efficiently in current and future climate conditions, while contributing to the Federal Government's climate leadership role and pursuing the vision of a resilient, just, healthy, financially stable, and prosperous nation.

2. Background. This policy addresses one of the two responses to climate change identified in the National Climate Assessment - climate adaptation. GSA plays a significant role in acquiring, designing, building, leasing, and disposing of space, products and services for the Federal Government. GSA has jurisdiction, custody or control of over more than 8,800 federally owned buildings or leases, maintains an inventory of more than 371 million square feet of workspace for almost 1 million Federal employees, preserves more than 512 historic properties, owns over 226,000 vehicles (most of which are leased to customer agencies), and provides 28 million different products and services totaling more than $75 billion in annual sales. Given the breadth of GSA's responsibilities, climate change will have significant impacts on the agency's ability to effectively fulfill its mission, operate its facilities, secure its supply chains, maintain financial stability, promote equity and access, advance environmental justice, and meet its policy requirements. These activities are distinct from, but related to, GSA's disaster response and recovery systems. These climate impacts reflect the timescales of both gradual and slow-onset climate change, as well as preparing for increased frequency, intensity and duration of acute climate-

related events, and the planning and implementation required for climate adaptation. Integrating climate change risk management and adaptation strategies into programs, operations and business models, including disaster response, will enable GSA to execute its mission, operations and finances securely, effectively, efficiently, and in an environmentally just manner in current and future climate conditions.

3. Policy. Through the Plan, GSA will continue to develop, prioritize, implement, and evaluate actions to integrate plausible projected climate conditions into its mission, programs, management functions, and decision points, so the agency can continually build its adaptive capacity, climate resilience, equity, and access. GSA will consider and address climate change impacts when undertaking long-term planning, setting priorities for research and investigations, and informing decisions affecting GSA resources, programs, acquisitions, policies, and operations. In tandem with these efforts, environmental justice considerations will be factored into the planning and implementation process in close collaboration with the agency's lead on environmental justice and consistent with the Plan. Responsiveness, awareness and partnerships with Federal customers and industry will drive GSA's Plan toward innovation and value.

   Implementation of actions established in the Plan will require coordination across the Heads of Services and Staff Offices (HSSOs) and Regional Administrators (RAs), in consultation with GSA's designated Senior Climate Change Adaptation Official (the Senior Official). In accordance with the responsibilities identified in the Plan, HSSOs and RAs will review existing programs, operations, policies, acquisitions, and authorities to identify opportunities to integrate both observed and plausible projected climate conditions into their organization's areas of authority, responsibility and accountability; prioritize and implement response actions that promote adaptation, operational resiliency, access and equity, and advance environmental justice; and continuously assess and improve capacity to adapt to changing conditions.

   GSA will coordinate with other Federal departments and agencies and interagency efforts, including the National Climate Task Force and its adaptation working groups. GSA will collaborate on matters that cross agency jurisdictions, including areas of a national adaptation strategy or plan. GSA will also identify a process for sharing climate change adaptation planning information within GSA and with its customer agencies, other coordinating Federal departments and agencies, and the public.

4. Responsibilities. The GSA Senior Official is responsible for ensuring implementation of all aspects of this policy. This policy does not alter or affect any existing duty or authority of individual components or offices.

The Administrator of General Services has established an Executive Climate Action Council (ECAC), in addition to its existing Strategic Sustainability Advisory Group (SSAG), to facilitate collaboration across the enterprise through consistent and prudent implementation of the agency's response to the climate crisis, including both emissions mitigation and climate adaptation. The ECAC and SSAG will include appropriate representation from HSSOs and RAs, and will work in consultation with the Senior Official to review their existing programs, operations, acquisitions, policies, and authorities to identify climate impacts and adaptation measures within their organization's areas of responsibility. In doing so, they must prioritize, implement and track progress on the identified Plan actions; identify risk management measures and integrate them with emissions mitigation activities; and continuously assess and improve GSA's capacity to adapt to current and future climate change, while bolstering public safety, equity and access. In addition, HSSOs and RAs must update agency, service and office plans annually, and coordinate with GSA's ECAC, SSAG, the Office of General Counsel (for legal sufficiency), and other pertinent GSA organizations. HSSOs and RAs must also closely coordinate their organizational plans with appropriate partner agencies and stakeholders, and integrate their organizational plans with overall interagency efforts, including the ECAC and its working groups, for those issues that cut across agency jurisdictions, including national adaptation strategies or plans.

5. Applicability. This directive applies to all GSA program actions, including, but not limited to:

   - Real property acquisition through purchase or lease, including lease extensions and lease construction;
   - Acquisition of supplies and services for GSA and its Federal customers;
   - Personal property disposal;
   - Transportation and logistics services;
   - Public building design and construction;
   - Public building alteration;
   - Public building operation, maintenance, repair, or replacement;
   - Real property disposal;
   - Continuity of Operations and disaster support policy, planning and operational coordination; and
   - Emergency Support Function #7 co-lead responsibilities under the National Response Framework.

6. Effective Date. This directive is effective immediately and will remain in effect until it is revised or cancelled.

7. Signature.

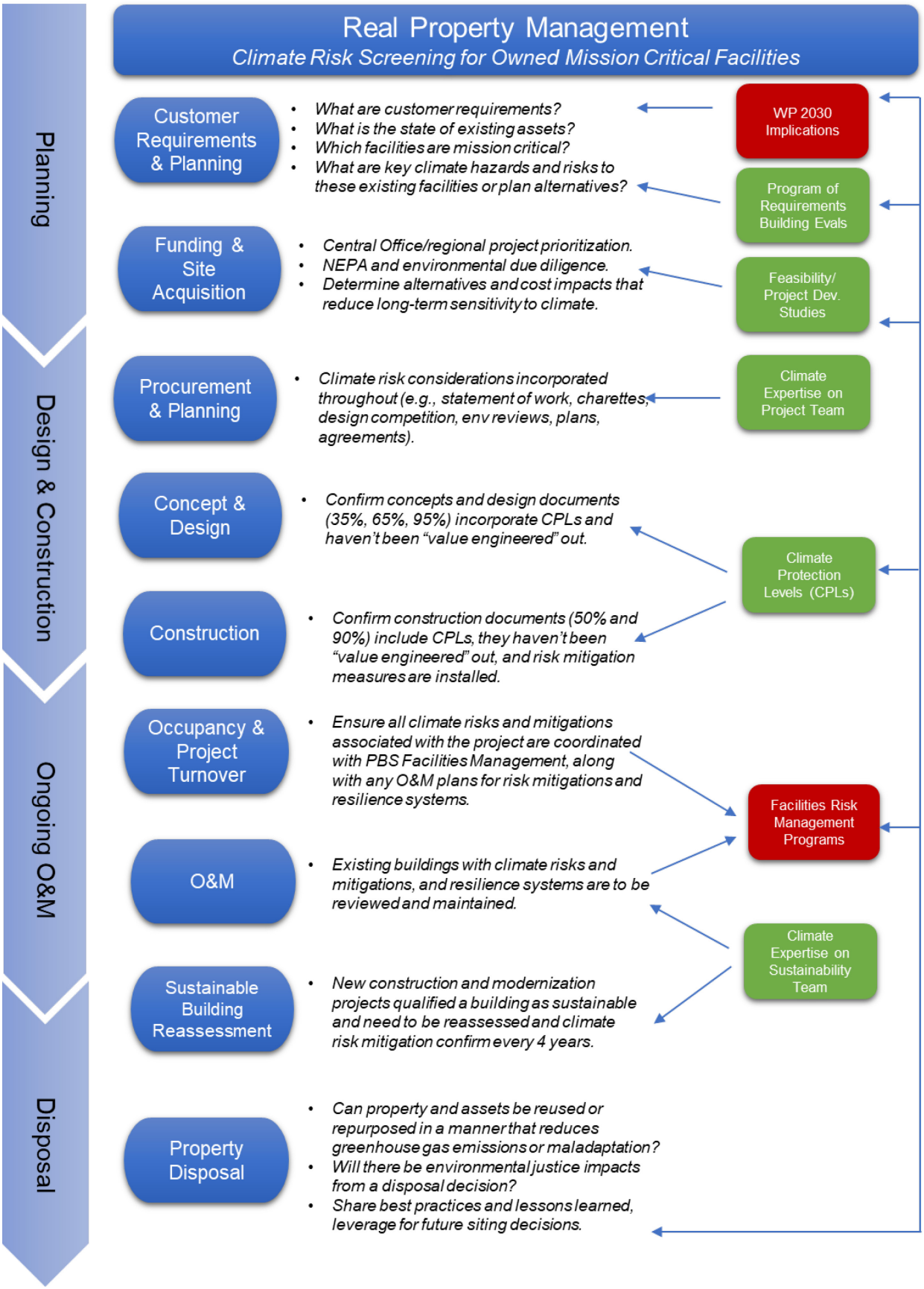
5/27/2021

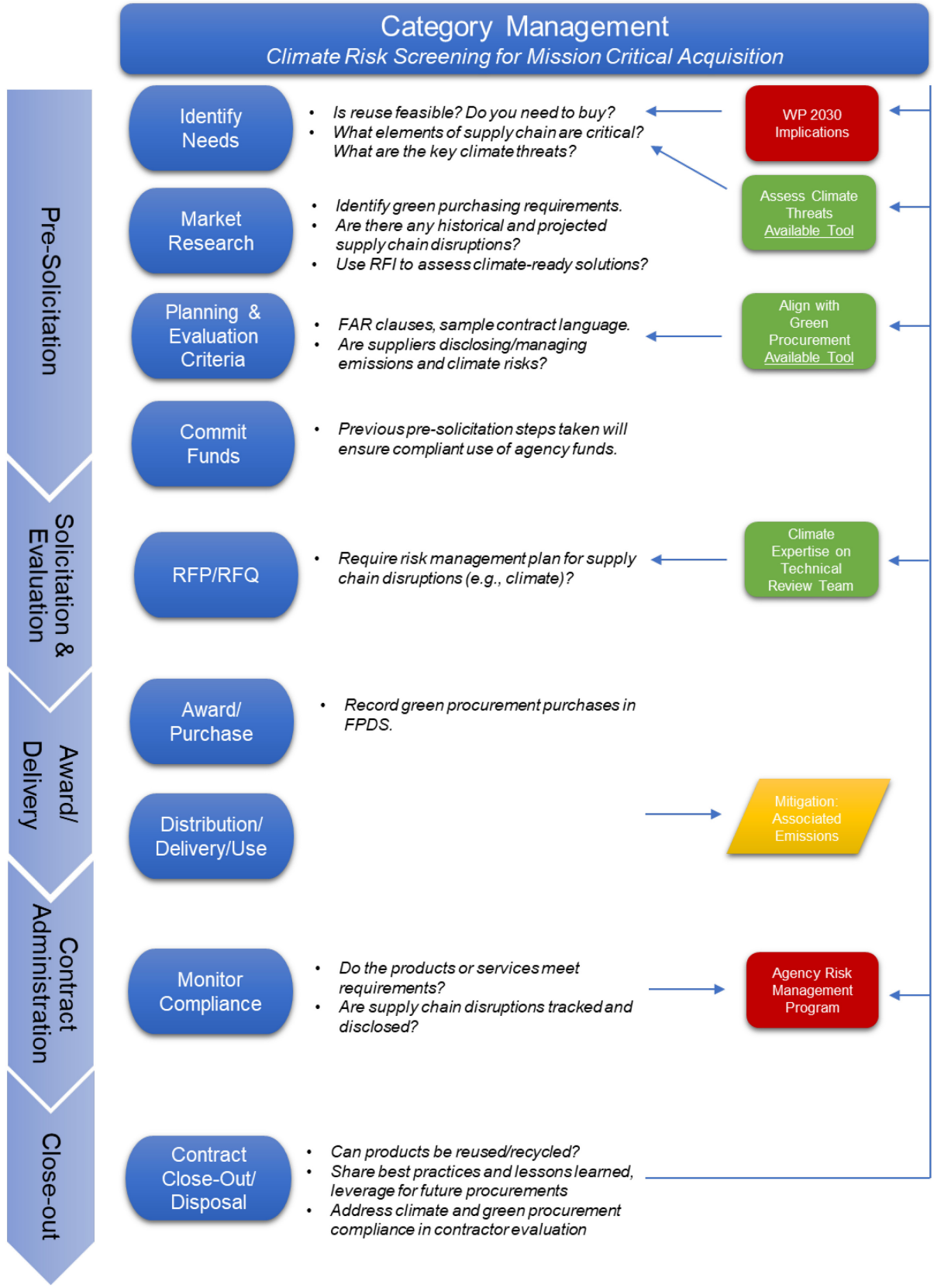
KATY KALE
Acting Administrator

Date

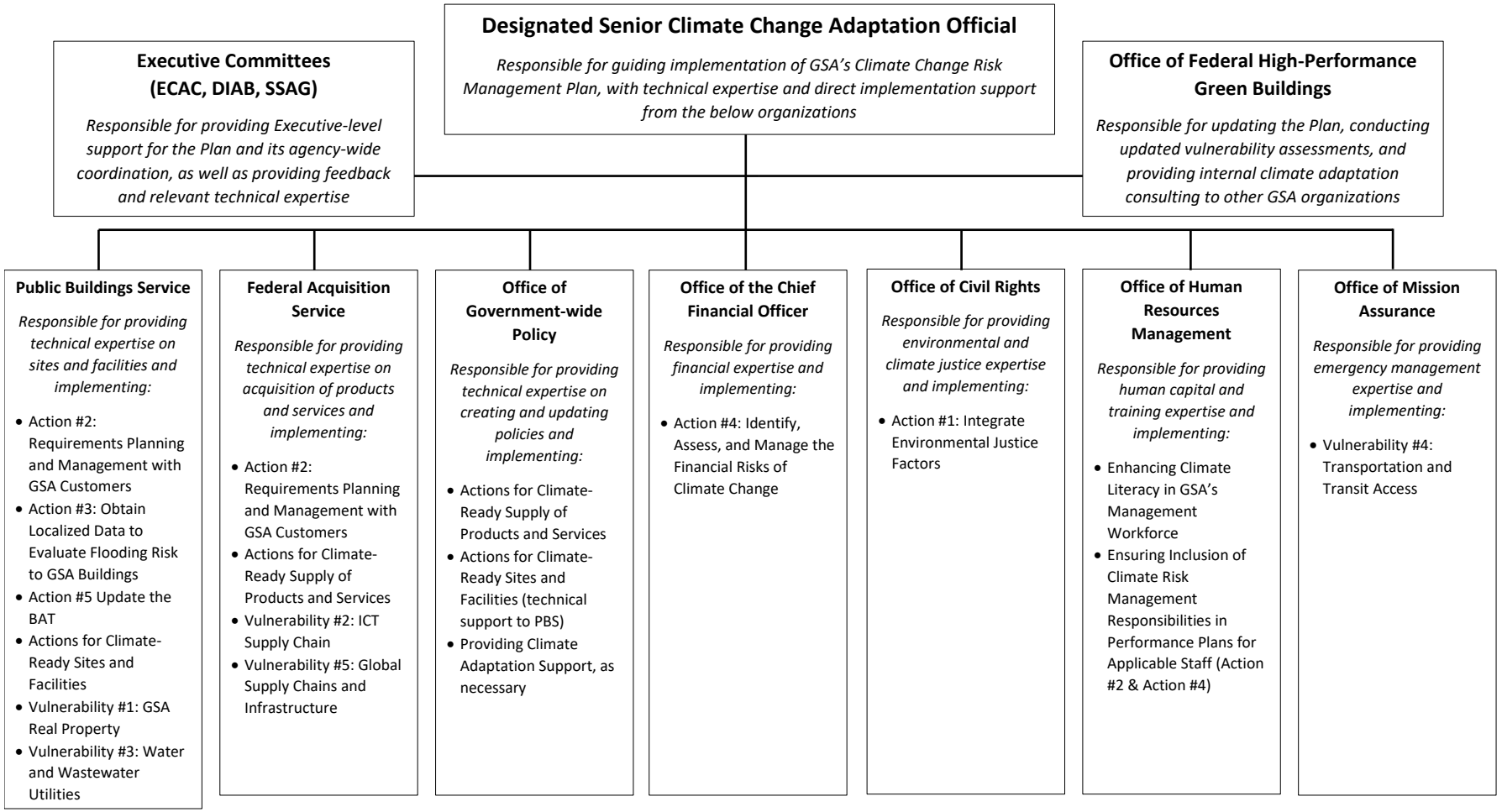
Appendix B. GSA Draft Decision Diagrams and Governance Structure

Implementing actions will require improved integration of climate-related decision-making so that facilities, products and services are climate-ready. Provided below are samples of process diagrams that PBS (Real Property Management) and FAS and OGP Acquisition (Category Management) can develop and refine over time to illustrate where climate information and expertise can improve decision-making. The final graphic is GSA's proposed draft governance structure to illustrate how GSA offices and senior officials will coordinate to implement the Plan.


Real Property Management
Climate Risk Screening for Owned Mission Critical Facilities
Planning
Design & Construction
Ongoing O&M
Disposal
Customer Requirements & Planning
What are customer requirements?
What is the state of existing assets?
Which facilities are mission critical?
What are key climate hazards and risks to these existing facilities or plan alternatives?
Funding & Site Acquisition
Central Office/regional project prioritization.
NEPA and environmental due diligence.
Determine alternatives and cost impacts that reduce long-term sensitivity to climate.
Procurement & Planning
Climate risk considerations incorporated throughout (e.g., statement of work, charettes, design competition, env reviews, plans, agreements).
Concept & Design
Confirm concepts and design documents (35%, 65%, 95%) incorporate CPLs and haven't been "value engineered" out.
Construction
Confirm construction documents (50% and 90%) include CPLs, they haven't been "value engineered" out, and risk mitigation measures are installed.
Occupancy & Project Turnover
Ensure all climate risks and mitigations associated with the project are coordinated with PBS Facilities Management, along with any O&M plans for risk mitigations and resilience systems.
O&M
Existing buildings with climate risks and mitigations, and resilience systems are to be reviewed and maintained.
Sustainable Building Reassessment
New construction and modernization projects qualified a building as sustainable and need to be reassessed and climate risk mitigation confirm every 4 years.
Property Disposal
Can property and assets be reused or repurposed in a manner that reduces greenhouse gas emissions or maladaptation?
Will there be environmental justice impacts from a disposal decision?
Share best practices and lessons learned, leverage for future siting decisions.
WP 2030 Implications
Program of Requirements Building Evals
Feasibility/ Project Dev. Studies
Climate Expertise on Project Team
Climate Protection Levels (CPLs)
Facilities Risk Management Programs
Climate Expertise on Sustainability Team



Note: FAR = Federal Acquisition Regulation; FPDS = Federal Procurement Data System; RFI = request for information; RFP = request for proposal; RFQ = request for quotation.


Designated Senior Climate Change Adaptation Official
Responsible for guiding implementation of GSA's Climate Change Risk Management Plan, with technical expertise and direct implementation support from the below organizations
Executive Committees (ECAC, DIAB, SSAG)
Responsible for providing Executive-level support for the Plan and its agency-wide coordination, as well as providing feedback and relevant technical expertise
Office of Federal High-Performance Green Buildings
Responsible for updating the Plan, conducting updated vulnerability assessments, and providing internal climate adaptation consulting to other GSA organizations
Public Buildings Service
Responsible for providing technical expertise on sites and facilities and implementing:
• Action #2: Requirements Planning and Management with GSA Customers
• Action #3: Obtain Localized Data to Evaluate Flooding Risk to GSA Buildings
• Action #5 Update the BAT
• Actions for Climate-Ready Sites and Facilities
• Vulnerability #1: GSA Real Property
• Vulnerability #3: Water and Wastewater Utilities
Federal Acquisition Service
Responsible for providing technical expertise on acquisition of products and services and implementing:
• Action #2: Requirements Planning and Management with GSA Customers
• Actions for Climate-Ready Supply of Products and Services
• Vulnerability #2: ICT Supply Chain
• Vulnerability #5: Global Supply Chains and Infrastructure
Office of Government-wide Policy
Responsible for providing technical expertise on creating and updating policies and implementing:
• Actions for Climate-Ready Supply of Products and Services
• Actions for Climate-Ready Sites and Facilities (technical support to PBS)
• Providing Climate Adaptation Support, as necessary
Office of the Chief Financial Officer
Responsible for providing financial expertise and implementing:
• Action #4: Identify, Assess, and Manage the Financial Risks of Climate Change
Office of Civil Rights
Responsible for providing environmental and climate justice expertise and implementing:
• Action #1: Integrate Environmental Justice Factors
Office of Human Resources Management
Responsible for providing human capital and training expertise and implementing:
• Enhancing Climate Literacy in GSA's Management Workforce
• Ensuring Inclusion of Climate Risk Management Responsibilities in Performance Plans for Applicable Staff (Action #2 & Action #4)
Office of Mission Assurance
Responsible for providing emergency management expertise and implementing:
• Vulnerability #4: Transportation and Transit Access