

United States Postal Service

Climate Change Adaptation Plan

Version: June 29, 2012

USPS Climate Change Adaptation Plan

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1. Introduction

The U.S. Postal Service’s mission is to provide secure, efficient, and reliable mail service to every person in the United States. With a history of more than 200 years, USPS has evolved as new technology was developed, and the demand for postal services changed. This climate change adaptation plan is being developed during a challenging time of organizational consolidation. USPS released its first climate change adaptation policy in June 2011. In March 2012, it completed a high level vulnerability analysis.

For USPS, climate change adaptation planning is a form of risk management. The impacts of climate change could burden or disrupt the Postal Service’s ability to provide mail service due to factors including an increase in the frequency, intensity and duration of extreme weather events, increased flooding driven by storms and rising sea levels, changes in temperature, precipitation and drought patterns, and stress on the Nation’s transportation infrastructure.

By planning for short and long-term changes, the Postal Service can help ensure that it invests resources wisely to maintain its mission and prevent disruptions in mail service.

This plan identifies and prioritizes actions to understand and respond to climate change impacts. USPS will report annually to the Council for Environmental Quality (CEQ) on its progress and specific actions for each year.

This analysis voluntarily responds to Executive Order 13514 and the *Instructions for Implementing Climate Change Adaptation Planning in Accordance with Executive Order 13514* (March 4, 2011).¹ It considers information from public sources, including the U.S. Global Change Research Program's (USGCRP) *Global Climate Change Impacts in the United States*² report and the White House Council of Environmental Quality's (CEQ) Climate Change Adaptation Task Force's *Implementing Instructions for Agency Climate Change Adaptation Planning*.³

2. Policy Framework

Vision & Goals

Climate change adaptation planning (CCAP) will help USPS avoid or minimize negative impacts on business operations, which could be caused by a range of climate change scenarios. Our vision is to be prepared and aware of climate change impacts and ready to respond to changes.

The goal of adaptation is to avoid and minimize climate change related impacts on the Postal mission and costs of operation.

Objectives

The objectives of adaptation planning are to:

- a. Assess and identify risk from climate change by conducting vulnerability assessments and other studies,
- b. Strengthen existing adaptive capacity, and
- c. Manage risk and maximize opportunities from climate change impacts by integrating adaptation considerations into policy, programs and operations, where appropriate and in order of priority.

See section five of this plan for specific actions and timelines towards these objectives.

Responsible Office

The Office of Sustainability coordinates integration of adaptation into Postal policy, programs and operations. The Office of Sustainability also engages cross-functional

¹ CEQ (2011) *Instructions for Implementing Climate Change Adaptation Planning in Accordance with Executive Order 13514*, http://www.whitehouse.gov/sites/default/files/microsites/ceq/adaptation_final_implementing_instructions_3_3.pdf The Postal Service is not subject to EO 13514 due to its independent status as a non-appropriated independent establishment but has adopted many of the policies and principles as its own post policy.

² USGCRP (2009b) *Global Climate Change Impacts in the United States*, <http://www.globalchange.gov/what-we-do/assessment/previous-assessments/global-climate-change-impacts-in-the-us-2009>

³ CEQ (2011)

stakeholder offices to review existing policies, roles and responsibilities, authorities, programs, and operational guidelines to identify potential impacts of climate change. The Office of Sustainability also works with stakeholders to prioritize and implement response actions; and to continuously assess and improve capacity to adapt.

Stakeholder Offices

USPS continues to identify critical stakeholders within its organization. We work closely with our operations, vehicles and network teams to keep the USPS mission central to adaptation planning. The Office of National Preparedness conducts preparedness and response planning and creates procedures for natural and other disasters to ensure USPS is able to resume operations in a timely manner. The Information Technology office is also key in continuity of operations. As part of adaption planning, USPS will ensure that these functions can continue to immediately respond to natural disasters, and will evaluate what long-term organizational changes may support the mission of these offices.

USPS will also work with offices that manage vehicles, facilities, network planning, security, and route development. This stakeholder list will expand to include other offices as USPS studies its vulnerability further.

3. High-Level Vulnerability Analysis

As the Postal Service uses the term, vulnerability refers to the degree to which the organization's employees, infrastructure, fleet and network are susceptible to and unable to cope with climate change impacts. Adaptation includes the initiatives USPS would take to reduce vulnerability against climate change effects.⁴ By increasing the adaptive capacity of the Postal Service's assets and programs, USPS can reduce its risk.

This high level analysis considered the exposure and sensitivity of the Postal Service's employees, facilities, fleet, and network to climate impacts and hazards. The main climate change impacts considered for this initial assessment include precipitation changes, hurricane and storm impacts, sea level change (coastal land loss impacts), and heat-related health and damage issues. Table 1 shows these areas of vulnerability that could potentially impact the postal mission. Beyond the items reflected in Table 1, additional and secondary effects are possible, which create a cost for USPS, but have minimal impact on mission.

⁴ USGCRP (2009a) *Climate Literacy: The Essential Principles of Climate Sciences*, <http://www.globalchange.gov/resources/educators/climate-literacy>

Table 1: USPS Identified Potential Vulnerabilities

Climate Impacts	USPS Assets			
	Employees	Facilities	Fleet	Network
Precipitation Changes				
Flooding	X	X	X	X
Drought				
Extreme events				
Increased storms	X	X		X
Increased storm severity	X	X		X
Wildfires	X	X		X
Sea Level Change				
Coastal land loss/Flooding		X		X
Salt water intrusion				
Temperature				
More hot days	X	X	X	
More heat waves/extreme heat	X	X	X	

The USGCRP (2009b) report identifies potential impacts that USPS may encounter, including:

- Floods and droughts are likely to become more common and more intense.
- Rising sea-level and storms will increase risk of major coastal impacts, including both temporary and permanent flooding of airports, roads, rail lines, and tunnels.
- Flooding will increase risk of disruptions and delays in transportation.
- Extreme heat will limit some transportation operations and cause pavement and rail track damage. Decreased extreme cold will provide some benefits.
- Increased intensity of storms and hurricanes would lead to infrastructure damage and transportation interruptions.
- Arctic warming will continue to reduce sea ice, which would lengthen the ocean transport season. However, thawing permafrost will damage infrastructure and shorten the ice road season.
- Extreme heat and heat waves would increase the risk of heat-related illness and death, but decrease exposure to extreme cold.

USPS will consider such findings in its evaluation of risk to our organization.

Employees

Climate change impacts of importance to employees include threats to health and safety. Flooding, extreme weather, and other events pose safety hazards whenever they occur for Postal workers in facilities and driving routes. Increased temperature extremes and heat waves may pose a health hazard for workers. This health hazard is due to heat-related illness and poor air quality.

Infrastructure/Facilities

Postal facilities and equipment for processing and sorting mail may be adversely impacted by changes in precipitation, extreme weather events, sea level change, and wildfires.

Sea level change may affect current facilities or future asset planning. Increased regular flooding due to changes in the flood plain, contamination of the facility water source through seawater intrusion and erosion of the facility foundation could be a result of sea level change.

Increases in heat waves and the average temperature can damage fixed infrastructure such as roads, bridges and facilities by decreasing the durability or lifespan of building materials and equipment. However, while increased temperatures can cause damage, the decrease in cold days and nights may lessen current rates of wear.

Fleet

The Postal fleet could be damaged in floods, fires, and extreme weather. Where these events may increase in frequency and severity, the risk of damage to the fleet also increases. Further, increases in heat waves and the average temperature can reduce vehicle longevity and change the efficiency of fuels, with varying impacts on alternative fuels. On the other hand, fewer very cold days could result in less wear.

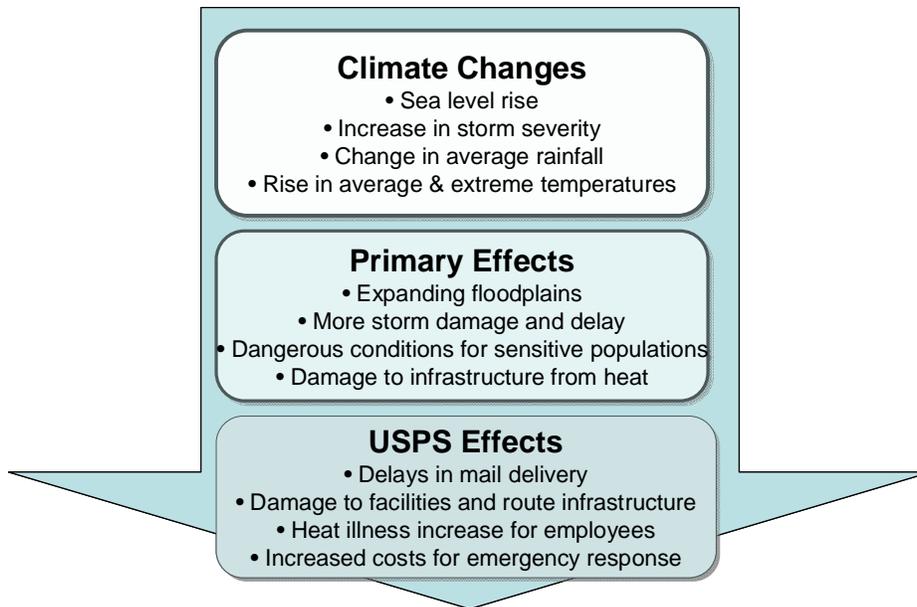
Network/Routes

Postal routes and the network face many of the same risks as facilities, including extreme weather events, flooding, changes in precipitation, sea level change, and wildfires.

Extreme weather events and wildfires are known hazards for the Postal Service in delivery. In these events we arrange to divert mail and to re-establish service as soon as possible. Flooding may delay delivery of mail to the customer or disrupt the movement of mail between postal facilities. Increased temperatures can change the amount of permafrost or sea ice, which could change transportation routes to locations in Alaska.

Sea level change could have a varied effect on Postal operations. Delivery points may change as populations move from coastal regions. Delivery routes and route infrastructure may be increasingly at risk from storm surge and flooding exacerbated by the change in sea level.

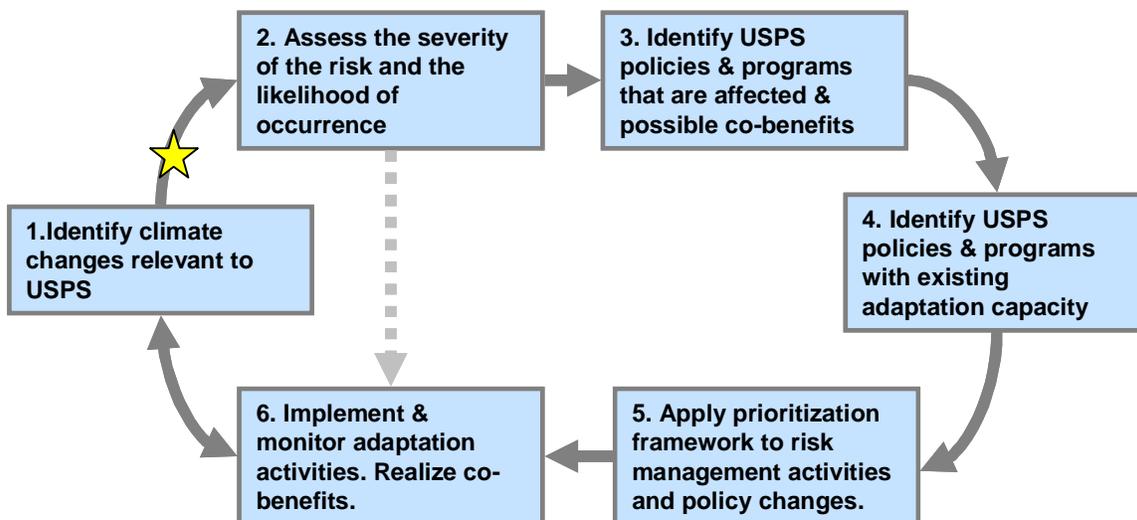
Businesses, government agencies, and individuals depend upon the Postal Service's network for timely delivery of essential mail – including medicines. As with any disaster, delays and disruption of service can have significant and serious consequences for sensitive populations – and financial implications for businesses.



4. Adaptation Planning and Evaluation Process

This is the first adaptation plan for USPS. Each year, we will review and revise the plan to represent our growing knowledge of existing adaptation capacity and the Postal Service’s vulnerabilities to climate change impacts.

A tentative strategy process is included below, which we expect will be altered as USPS fully engages its stakeholders.⁵ This continuous process will identify relevant climate changes, assess the level and likelihood of the risk, identify affected policies and programs, identify existing adaptation capacity, prioritize activities based on the type of risk, the goal, and implementation activities, and will also monitor progress.



⁵ This strategy is adapted from a proposed framework in the National Academies Board of Atmospheric Science and Climate report in 2010, *Adapting to the Impacts of Climate Change*.

The Postal Service is currently between step 1 and step 2 (see yellow star). USPS began to identify the most relevant climate changes for the high-level vulnerability analysis, but is just beginning to understand the amount of risk inherent in these changes. See Section 5 *Activities and Actions* for steps USPS is taking in the near future in the adaptation planning process.

The plan below provides more detail on strategy for short term or immediate response to climate changes, long term organizational strategies, and monitoring approaches.

Short term and immediate response strategies

The Postal Service's existing programs to address natural disasters will also apply in response to increased risk of damage and mail disruption driven by climate change. For USPS, these are immediate response strategies that will address the short term climate change risks.

Existing programs for natural disasters or other interruptions of regular delivery that reduce vulnerability to climate change impacts include the Continuity of Operations Plans (COOP) and IT redundancy and contingency plans.

USPS has COOP plans that allow operations to continue if a particular facility cannot respond or mail cannot be processed and delivered there. At the headquarters level, it is a preplanned movement of selected personnel and identifies authority transfers. It also allows for continuity of essential functions under all circumstances. On the field level a COOP directs facilities on diverting processing, transportation, and delivery operations when certain facilities become unavailable. Sort plans identify how to process mail, and are held by each facility. Processing and Distributing Centers/Facilities have the capability to transfer a sort plan to another facility to eliminate the interruption of mail service if one facility is closed. Each facility is part of a network structure that has contingencies in place to divert mail. This minimizes delay in the Postal Service's mission.

USPS also has plans and procedures to address disasters that might impact its Information Technology (IT) systems. Its IT continuity management plans ensure that in the aftermath of a disaster, the IT systems can be restored. For its major data centers, redundancy allows that if one center is compromised, operations can continue with the resources at the other facility. The IT continuity personnel conduct impact assessments for all IT applications to determine which applications are critical and assesses if they have adequate disaster recovery plans. They assist all facilities from major Processing and Distribution Centers to local post offices.

The Postal Service has procedures to address major events, such as hurricanes and other natural disasters. The Office of National Preparedness implements the US Postal Continuity Programs. This office has responsibilities for Preparedness and Response. It ensures programs and procedures for emergency preparations and support, including deploying large generators for critical infrastructure. For example, during Hurricane Irene

in 2011, USPS monitored the progress of the storm and staged emergency generators prior to the storm and deployed them as power outages were determined. Facilities impacted by power losses led USPS to shift mail to operations in other areas for processing.

The Office of Policy and Planning is developing an application to serve as a central repository for key information on our more than 30,000 facilities. This application will improve pre-planning for major events. The system will capture information from existing USPS systems on our facilities and unique operational requirements. This information will allow USPS to strategize operational and relocation needs in the event of an emergency. There are locally selected facilities where operations would resume in the case of a major event. In addition, the application will gather information on alternate vehicle staging locations. This is key to ensure that our delivery fleet is ready and able to resume operations. Finally, delivery continuity checklists exist for each type of operation, to help local management in emergency planning and preparedness.

To increase adaptive capacity in this area in the long-term, USPS will need to evaluate whether these programs can handle increased severity and occurrence of natural disasters.

Long term organizational strategies

We are using our short term goal strategies as the foundation for understanding what needs to be done in the long term.

USPS is beginning to identify its vulnerability in a way that can direct actions. We are led by the guidance from the White House Council of Environmental Quality to prioritize the most vulnerable, use best-available science, apply risk-management methods and tools, and maximize mutual benefits.

Adaptation planning for the Postal Service is a form of risk management, to address both the magnitude of risk and the uncertainty of impacts. This is more than a one time decision. USPS is currently engaging stakeholders to better understand this risk and what policies and programs are vulnerable, to protect important assets. While existing policy for national preparedness will minimize mail disruptions caused by climate changes, long term organizational strategy will identify the best way to integrate adaptation into network planning to avoid the disruptions.

We intend to leverage and expand current sources of data. USPS has performed over 160 site specific environmental assessment surveys at our largest mail processing facilities as a key part of the network rationalization effort. The assessment included surveying for information such as on-site wetlands, flood plains, coastal zones, endangered species or critical habitats, and other attributes. USPS also plans to expand Geographic Information System (GIS) capabilities using data from the Army Corps of Engineers and USPS data to highlight risk areas and postal facility locations. Armed with this information, USPS will be in a better position to strategize facility consolidations in the future.

Actions and activities should be designed to be solid business and mission solutions. For USPS, adaptation does not mean waiting until uncertainties have been reduced, as noted by the National Academies Board on Atmospheric Sciences and Climate (2010):

*Actions taken now can reduce the risk of major disruptions to human and natural systems; inaction could serve to increase these risks...Mobilizing now to increase the nation's adaptive capacity can be viewed as an insurance policy against an uncertain future.*⁶

Prioritization Methodology

One top task will be to begin to develop how the Postal Service will prioritize climate change adaptation activities and actions. The largest priority activities now are to better understand vulnerabilities and existing capacity for adaptation. USPS will report on a prioritization framework upon development.

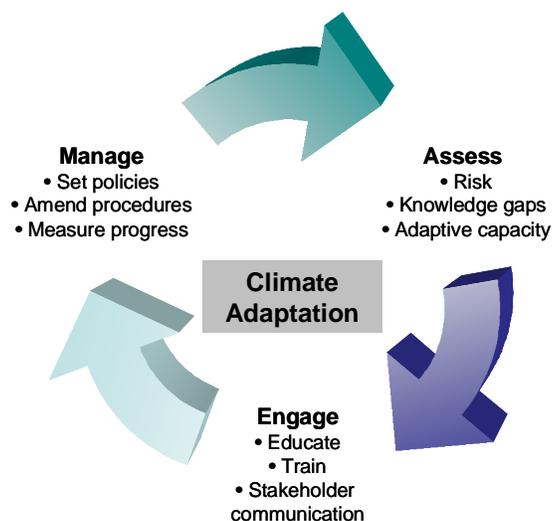
USPS also is still in the process of determining USPS goals for climate change adaptation. When developed, risk prioritization will also consider whether a particular activity or action addresses these goals.

Monitoring and evaluation

USPS will create a monitoring and evaluation plan of its actions, and is now gathering information. In these initial years, USPS will measure its progress by reviewing stakeholder engagement as well as policies that have been evaluated.

5. Activities and Actions

Postal Service activities and actions manage adaptation through policies and procedures, assess risk and knowledge, and engage stakeholders and employees.



⁶ National Academies BASC (2010) Adapting to the Impacts of Climate Change

Managing adaptation

Management includes programmatic activities or changes to policy, programs, or operations to assess and build adaptation capacity within the Postal Service. This includes collaboration with outside stakeholders and integration of climate change risks and opportunities into policy and operations.

Planning

Action	Lead	Objective	Timeframe
Establish a climate change adaptation working group to coordinate adaptation planning	Sustainability	Communicate management objectives and integration strategy	Dec. 31, 2012
Conduct quarterly adaptation working group meetings	Sustainability	Maintain communication and continual planning updates. Obtain organizational buy-in by determining stakeholders' goals.	Ongoing

USPS delayed the establishment of a climate change adaptation working group until the end of calendar year (CY) 2012. The working group will be designed to include key stakeholders in climate change adaptation and is intended to evolve over time as new stakeholders are determined. Postal reorganization in FY 2011 delayed the formation of this working group.

A role of the working group will be to better understand the challenge of climate change adaptation, not just in identifying policies, but identifying the goals and risks from each stakeholder's perspective.

Action	Lead	Objective	Timeframe
Complete an initial organizational adaptation plan	Sustainability	Set specific goals and create strategy to communicate with internal stakeholders	Jun. 29, 2012

USPS plans to update its adaptation plan in 2013, to encompass what it learned and implemented for that year. The plan is national and is subject to significant revisions in discussions with stakeholders.

Assessing climate risk and opportunities

Assessing risk and opportunities includes actions and activities to identify vulnerability, monitoring impacts of climate change, and any ad hoc studies to assess risk on particular programs or geographic areas.

Action	Lead	Objective	Timeframe
Complete high-level analysis of agency vulnerability to climate change	Sustainability	Support prioritization of adaptation planning and identify USPS assets for potential adaptation action.	Mar. 31, 2012
Update organizational vulnerability analysis	Sustainability	Continue to refine analysis as more information becomes available	Ongoing

USPS completed its initial high-level analysis of its vulnerability to climate change in October 2011 and finalized the report in March 2012. This analysis is based on nationwide climate change findings from the USGCRP. USPS plans to continue to update the analysis as it learns more about Postal-specific and geographically sensitive impacts. Vulnerabilities identified through communication with stakeholders will be integrated into the organizational vulnerability analysis.

Engagement and training

Engagement and training includes capacity building activities for staff and awareness events. This also includes engaging with stakeholders as well as other agencies and organizations on their best practices.

Action	Lead	Objective	Timeframe
Conduct an awareness training for headquarter stakeholders	Sustainability	Increase awareness to foster adaptive capacity to climate changes	FY13

USPS is planning to kick off its engagement and training with its key stakeholders at headquarters. This engagement event will also brainstorm additional actions for awareness and training.

Employees, Fleet, Facilities and Network

USPS considers four assets for vulnerability; employees, fleet, facilities, and network.

Employees

Action	Lead	Objective	Timeframe
Identify policies that cover heat and storm awareness and outreach for employees	Sustainability	Ensure warning systems and emergency procedures are in place for employees.	FY13-FY14
<i>Tentative - Conduct training for managerial employees on increased health risks for employees over time and in certain geographic locations</i>	<i>TBD</i>	<i>Ensure warning systems and emergency procedures are in place for employees.</i>	<i>Outyear</i>

USPS Office of Sustainability will work with relevant offices to ensure that employees and managers understand how to communicate and deal with severe weather events.

Fleet

Action	Lead	Objective	Timeframe
Identify vulnerabilities related to vehicles and engage relevant stakeholders	Sustainability	Avoid mail disruption by adjusting to changes that affect vehicles & the fleet	FY13

USPS has identified high level vulnerabilities for the fleet and will work in FY 2013 with vehicle experts to better define these risks.

Facilities

Action	Lead	Objective	Timeframe
Identify policies that cover facility consolidation	Sustainability	Avoid risk of climate impacts through integrating adaptation into policy	FY13
Identify key criteria for a climate change aware consolidation decision process	Sustainability	Avoid risk of climate impacts through integrating adaptation into policy	FY13-FY14
<i>Tentative - Integrate adaptation criteria into consolidation decision process</i>	<i>TBD</i>	<i>Reduce vulnerability to climate changes</i>	<i>Outyear</i>

USPS is currently consolidating its network in order to maximize efficiency within restrictive budgetary constraints.

Action	Lead	Objective	Timeframe
Identify policies that cover facility siting and design decision-making	Sustainability	Avoid risk of climate impacts through integrating adaptation into policy	FY13
<i>Tentative - Integrate adaptation considerations into facility siting and design decisions</i>	<i>TBD</i>	<i>Avoid risk of climate impacts through integrating adaptation into policy</i>	<i>Outyear</i>
<i>Tentative - Site and design future facilities accounting for sea level rise and increased storm severity</i>	<i>TBD</i>	<i>Reduce vulnerability to sea level rise, and associated expanded floodplain and shoreline erosion</i>	<i>Outyear</i>

USPS is currently not building and designing many new facilities, but will identify and integrate adaptation into policy for future building changes. This could include where the facility is located, shoreline setbacks, as well as the building construction or repairs to increase resilience. USPS plans to work with stakeholders to better understand this vulnerability.

Network

Action	Lead	Objective	Timeframe
Identify vulnerabilities related to transportation infrastructure and routes and engage relevant stakeholders (e.g. roads, bridges)	Sustainability	Avoid mail disruption by adjusting to changes that affect the network	FY13-FY14
Identify vulnerabilities related to IT infrastructure and engage relevant stakeholders	Sustainability	Avoid mail disruption by adjusting to changes that affect the network	FY13
Initiate communication with DOT personnel on future climate change planning data collection	Sustainability	Avoid mail disruption by adjusting to changes that affect the network	FY13

USPS is currently identifying network vulnerabilities and network related policies. This does not mean that USPS will be able to quantify the magnitude or likelihood of the risk, but will begin to identify the type of vulnerability. Once USPS identifies the type of vulnerability, it can consider magnitude and timing in prioritizing actions and activities.

6. Conclusion

USPS is taking an active approach to creating an adaptation plan that will allow the agency to be resilient in the face of climate changes. As our organizations changes within the next year we expect that this plan will grow and change as well. Our aim is to continue as we have for more than 200 years – Successfully adjusting to the times while continuing our mission to bind the nation together through the mail.

In conclusion, the Postal Service will live up to the informal motto that “Neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds”.