U.S. Small Business Administration

FY 2014 Climate Change

Adaptation Plan

Office of the Chief Operating Officer

06/30/2014

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I. Introduction and Policy Framework

a. Introduction

The mission of the U.S. Small Business Administration (SBA) is to aid, counsel, assist, and protect the interests of small business concerns, to preserve free competitive enterprise, and to maintain and strengthen the overall economy of our nation. Under the direction of Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, and Executive Order 13653 Preparing the United States for the Impacts of Climate Change, the SBA continues to incorporate climate change adaptation considerations into the execution of its mission and operations. In doing so, the SBA is focusing on managing climate change related risks to its operations and missions, ensuring that its programs support climate change adaptation among the small business community and collaborating with other agencies to address climate change in an efficient and effective manner.

The results of these efforts include: the identification of existing risk management programs within the agency that may be used to address climate change related risks; preliminary risk analyses of the SBA's lending guarantee programs; a review of the SBA's Office of Disaster Assistance (ODA) programs to identify ways in which they support climate change adaptation; and the identification of several innovative programs within the Office of Entrepreneurial Development that can increase the resilience of small business and local communities in the face of climate change.

b. Policy Statement

The U.S. Small Business Administration (SBA) is committed to implementing Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, and Executive Order 13653 Preparing the United States for the Impacts of Climate Change. The Federal Government has a critical obligation to carry out climate adaptation planning because climate change directly affects a wide

range of federal services, operations, programs, and assets, and has broad implications for the U.S. economy and national security. The SBA is committed to collaborating with other federal agencies, as well as partners in States, territories, local communities and tribes, to meet the challenges posed by climate change.

In light of the goals under EO 13653 there are three priority areas of consideration for the SBA:

- Encouraging resilience and preparedness among the small business community
- Ensuring SBA's lending, disaster assistance, and business development programs promote adaptation and resilience, where possible and appropriate, and do not create unnecessary barriers to adaptation
- Ensuring climate change related risks to SBA's mission, loan portfolio, and operational capacity are identified and appropriately managed

The SBA's mission is to aid, counsel, assist, and protect the interests of small business concerns, to preserve free competitive enterprise, and to maintain and strengthen the overall economy of our nation. Consequently, the SBA is uniquely positioned to promote disaster preparedness and business continuity planning among small businesses to increase their resilience to climate change. In addition, the SBA must regularly review its lending, disaster assistance, and business development programs to ensure they continue to support resilience and adaptation whenever possible.

Furthermore, the SBA must effectively identify and manage risks to the agency's programs and operations, so that the agency may continue to properly execute its mission. Using the agency's new enterprise risk management framework the SBA will evaluate risks posed by climate change on an annual basis. In addition, this framework will be supported by SBA's Continuity of Operations Plan and Disaster Preparedness and Recovery Plan. The SBA will rely on the best available science, including the most recent National Climate Assessment, to conduct its climate change risk management activities.

The SBA's Senior Sustainability Officer is responsible for verifying implementation of all aspects of this Policy.

II. Planning for Climate Change Related Risk

In response to risk management requirements of Executive Order 13653 the SBA has taken several measures to ensure that climate change related risks are identified and assessed and that the SBA collaborates with other agencies in managing broad risks to the United States as a whole. The SBA's risk management framework consists of three components: the Disaster Preparedness and Recovery Plan, Continuity of Operations Planning, and the new Enterprise Risk Management Program. Through these mechanisms, as well as individual meetings with different program offices, the SBA identified three impacts from climate change that needed to be analyzed to identify their implications for SBA's mission and programs. The following impacts were identified: sea level rise and increased storm surges, increased temperatures and increased severe weather events. In addition, the SBA examined the possible impacts of climate change on the agency's real property portfolio and identified ways in which the SBA will collaborate with other agencies to support climate change risk management across the government. The table in Appendix II summarizes many of the programs discussed in this section.

a. Climate Change Risk Management Framework

The SBA's climate change risk management framework includes: the Disaster Preparedness and Recovery Plan, Continuity of Operations Planning, and the Enterprise Risk Management Program. In future years the Enterprise Risk Management Program, which is still currently being developed within the agency, will be the primary tool used to assess climate change related risks to the agency's operations and programs. However, in 2014 the SBA relied more on the Disaster Preparedness and Recovery Plan, the Continuity of Operations Planning process and discussions about climate change risks with individual offices.

i. Disaster Preparedness and Recovery Plan

The SBA's Disaster Preparedness and Recovery Plan[1] (DPRP) outlines how the SBA conducts its operations in support of the national preparedness frameworks required by Presidential Policy Directive 8, National Preparedness. While the DPRP applies to events beyond the scope of climate change, such as earthquakes and terrorist attacks, it is also applicable to natural disasters influenced by climate change (e.g., wildfires and hurricanes).

When a natural disaster impacts the United States the SBA supports the economic recovery of affected communities through capital, counseling and contracting services. The ODA's Disaster Loan Program helps homeowners, renters, businesses of all sizes, and nonprofits fund their recovery. Counseling by the SBA's Office of Entrepreneurial Development and its resource partners (including Small Business Development Centers, among others) helps small businesses navigate through the recovery process. Federal contracting guidance and other SBA efforts bring business to impacted firms. The SBA uses its DPRP to ensure that the agency is prepared to provide these vital services in a timely manner. In doing so the agency undertakes risk assessments that evaluate the demands of various disaster scenarios upon the response capacity of the agency. Risk analysis and historical trends are also used to appropriately size and tailor planned responses to disasters.

SBA disaster loans are available when one or more government entities declare that a disaster has occurred. There are three ways, relevant to this Climate Change Adaptation Plan, that disaster declarations are issued to

[1] http://www.sba.gov/content/disaster-recovery-plan

make SBA disaster loans possible: Major Disaster Declarations, Agency Physical Disaster Declarations, and Agency Economic Injury Disaster Declarations. From 1992 through 2013, SBA processed an average of 112,000 disaster loan applications per year. During that same period, SBA received more than 100,000 applications in nine years and exceeded 200,000 applications in three years.

The ODA makes staffing projections to estimate the human resources it will need to respond to disasters. These projections are based on the number of disaster loan applications expected, which is based on the projected number of disaster-damaged homes and businesses and the geographic range of the damage zone. SBA uses several models to make projections including:

- The Internal Demand Forecast Model – designed to estimate the dollar amount of disaster assistance loans that will be made in response to a disaster.

- The Internal Resource Requirements Model – designed to forecast the staffing levels necessary for SBA to handle a wide range of disaster events. The model forecasts the staff necessary, by specific skill area, to meet the targeted loan application review time on a weekly basis following the disaster event. The model can also be reversed to show the backlog in applications generated by a given set of available staff.

- FEMA's HAZUS – model used to evaluate the various impacts that hurricane and flood scenarios will have on different parts of the United States that SBA uses to determine the scope of its disaster response effort and to further refine its disaster response processes.

The ODA's core and term reserve staff provide initial human capital augmentation as required to manage and process the influx of loan applications following a disaster. Core reservists allow ODA to rapidly expand and subsequently contract its capacity during typical conditions. The term reserve roughly doubles ODA's capacity during more challenging disaster periods.

SBA also carefully projects the funds needed to support the Disaster Loan Program after a disaster. After initial demand levels are established through the Internal Demand Forecast Model, SBA determines whether additional (supplemental) funds are needed. If so, SBA works with the Office of Management and Budget (OMB) to request supplemental funds from Congress. SBA's process for tracking disaster fund usage involves a coordinated effort between the ODA and the Office of the CFO (OCFO). ODA develops the initial estimates of a disaster's loan demand based on the following sources of information: estimated number of referrals from FEMA; historical average rate of applications received as a percentage of FEMA referrals; historical average rate of applications approved; historical average loan size for comparable disaster type (e.g. hurricane); and results from the Internal Demand Forecast Model.

When an event occurs, SBA executives assess the situation. First, the Associate Administrator for Disaster Assistance (AA/ODA) assesses whether a disaster can be handled by ODA's internal capacity or whether the Agency must surge. ODA's internal capacity suffices for disasters that generate less than 100,000 applications (Level I – Core Capability) and disasters that generate between 100,000 and 250,000 applications (Level II – Transition to Surge).[2] If the AA/ODA decides that internal capacity will initially suffice, the members of the Executive Management Team/Disaster Oversight Council (EMT/DOC) continually monitor the situation.

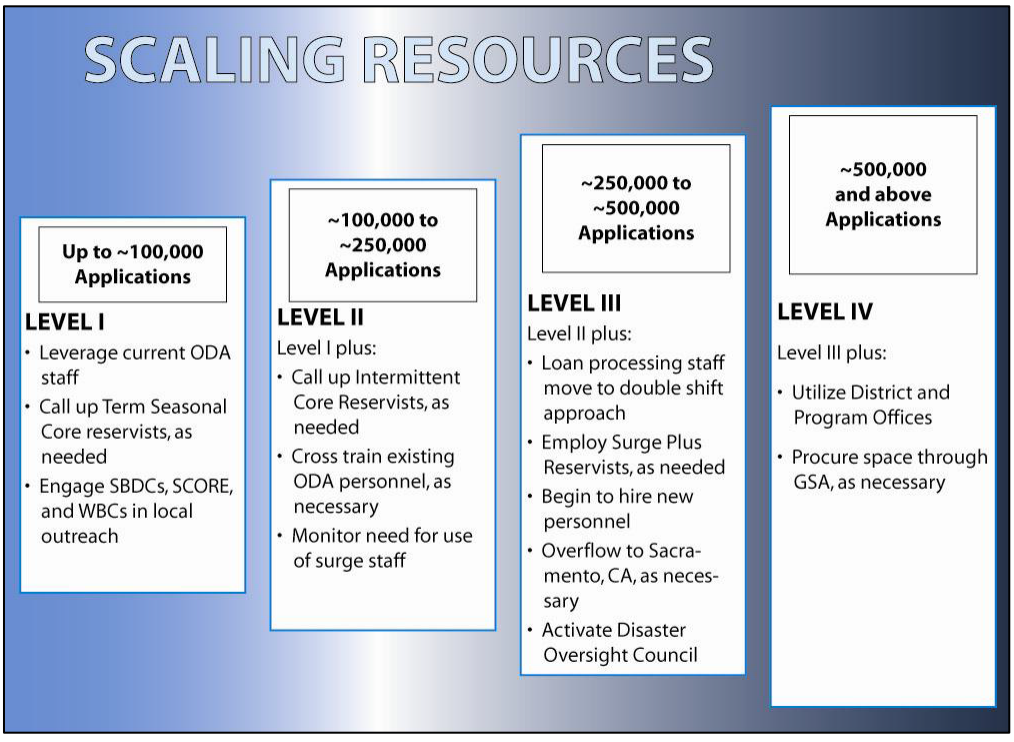
If the number of expected loan applications exceeds approximately 250,000 initially or during the course of a disaster, the AA/ODA will discuss with the membership of the EMT/DOC whether to make a surge recommendation to the Administrator. Elevating the Agency to a surge level

[2] See Figure 1 below.

of response is a specific decision to be made by the Administrator after considering the overall nature of the disaster. SBA operates at surge capacity during and after disasters that generate more applications than supportable by ODA's internal capacity of approximately 250,000 applications. While the 2005 Gulf Coast Hurricanes represent the highest level of disaster activity that SBA has faced to date, the Agency is prepared to serve the needs of disaster victims at even greater levels of disaster activity.

In summary, the DPRP documents the risk management framework used by the agency to project and calibrate its disaster response capacity, particularly for the ODA. Because of the known and potential influence of climate change on natural disaster frequency and strength, this tool is critical to ensuring the agency can respond appropriately to disasters and increase the resilience of impacted communities

Figure 1: Office of Disaster Assistance Scaling



ii. Continuity of Operations Planning

The SBA holds 187 leases for offices in 160 cities spread across the United States, the U.S. Virgin Islands, Puerto Rico and Guam. The risk climate change poses to these facilities is as varied as the locations themselves. Nonetheless, SBA is prepared to face climate change based risks related to natural disasters in each of these locations through the Agency COOP planning structure. Each facility has a tailored plan designed to address its specific security and disaster response needs. Relevant components of these plans include: a threat assessment that looks at man-made and natural threats to the location; the identification of and plans for continuation of SBA's Mission Essential Function(s)[3]; the designation of alternate operating sites and/or processes; emergency test requirements; the classification of emergency levels; a COOP implementation checklist; an occupant emergency plan; and an emphasis on telework as a strategy for mitigating the impacts of an event. Should a climate change influenced event impact a particular SBA facility, the plan for that facility would govern the response.

Similarly, COOP planning also addresses employee and public health and safety risks. The plans prepare for the immediate and

[3] The seven SBA MEFs are: (1) Declare disasters, process applications for disaster loans from individuals and businesses, and disburse approved loans. (2) Issue acceptance letters to procuring Federal agencies in response to offering letters submitted under the 8(a) Business Development Program and negotiate and execute 8(a) contracts. (3) Servicing and liquidation of all SBA direct and guaranteed loans made pursuant to the Small Business Act and servicing and management of SBA surety bond guarantees issued pursuant to the Small Business Investment Act. (4) Process and approve SBA guaranteed loans made by delegated and non-delegated lenders pursuant to Section 7(a) of the Small Business Act and process and approve loans made by Certified Development Companies pursuant to Section 504 of the Small Business Investment Act and approve and administer SBA surety bond guarantees pursuant to Section 411 of the Small Business Investment Act. (5) Receive, evaluate and forward for disbursement requests from resource partners for payment. (6) Issue Approval Notices for Small Business Investment Companies to allow for investments into small businesses. (7) Approve the repurchase of debentures pursuant to SBA's guarantee upon demand.

lingering impacts of a natural disaster in the manner described above. In addition, the plans include information about support for SBA victims of disaster and emergency family support. Should members of the public be in an SBA facility during an event, the plans account for protecting the safety of both the public and employees. By ensuring that each of the SBA's facilities is prepared for the impacts of a disaster, the COOP planning structure ensures the SBA will be able to continue to provide key services to the public in the face of climate change. Furthermore, the COOP planning process allows for early identification of increasing risks requiring additional mitigation.

iii. Enterprise Risk Management

In FY 2014 the SBA initiated an enterprise risk management framework. The enterprise risk management (ERM) function resides in the SBA's Office of the Chief Operating Officer, and it works to identify and assess risk across the Agency. As part of its risk assessment activities, the ERM function identifies risks—including climate-related risks—to the agency's mission, its strategic objectives and its Mission Essential Functions, and coordinates the assessment of these risks.

In FY 2014 the SBA performed its risk assessment process in relation to climate change outside of the ERM program on an office-by-office basis because the ERM program was still in development. However, in FY 2015 and all future years the SBA will use the ERM program as the primary mechanism for identifying, prioritizing and monitoring risks to the agency from climate change, alongside other risks to the agency. All major risks to the agency – including risks related to climate change – will be documented in a single comprehensive risk register.

b. Identification and Assessment of Climate Change Related Risks and Impacts

This Adaptation Plan has identified the following impacts that are particularly relevant to the agency's mission, programs and/or operations: sea level rise and storm surges; temperature increases; and increased severe weather events.[4] These impacts and the risks associated with them were identified through cross-agency meetings with representatives from each of the SBA's program offices, as well as one-on-one follow-up meetings with offices that identified programs that were likely to be impacted by climate change.

These impacts were identified and are assessed based on the following factors (in no particular order):

i. The ability of the impact to affect the SBA's leased office facilities
ii. The ability of the impact to affect the SBA's staff
iii. The ability of the impact to affect loans guaranteed by the SBA
iv. The ability of the impact to affect the SBA's Office of Disaster Assistance programs
v. The ability of the impact to significantly affect the small business community

These factors were selected based on the following rationale: The SBA is an agency whose primary operational assets are leased offices buildings and their associated furnishings, therefore the SBA is focusing on impacts to those assets. In addition, any impact that affects the employees of an agency always warrants consideration. From a program and mission perspective, the SBA is focusing on three areas that tie into the core mission of the agency: access to capital for small businesses, disaster lending, and small business counseling and

[4] The SBA considered including shifts in pests, pathogens and diseases, but upon analyzing the information in the 2014 National Climate Assessment "Human Health" chapter the SBA determined that there were not enough specific risks to the agency to warrant further analysis. This risk may need to be revisited in future years as further research is conducted.

education. No risk identified here is deemed so significant that it impairs a statutory mission or operation of the SBA.

i. Sea Level Rise and Increased Storm Surges

Recent projections have demonstrated that even the lowest amount of emissions will still result in at least 11 inches of sea level rise by 2100, and that is without any contribution from the Greenland and Antarctic ice sheets. This means that a 1 foot global sea level rise by 2100 is a plausible low estimate and as much as a 4 foot rise is a possible high estimate. This becomes increasingly dangerous as about 5 million people live within the areas affected in the U.S. by a 4 foot increase to local high tide levels. Likewise, sea level rise poses a risk for more than 5,790 square miles of coastal property valued at $1 trillion. This property would be inundated by two feet of water above current levels by 2050. About half of the most vulnerable property is in Florida while the most vulnerable cities include Miami, the Greater New York metropolitan area, New Orleans, Tampa-St. Petersburg, and Virginia Beach.

Sea level rise not only poses a threat for coastal residents, but also for increased coastal erosion, changes in sediment transport and tidal flows, more frequent flooding from storm surges, landward migration of barrier shorelines, fragmentations of islands, and saltwater intrusion of aquifers and estuaries. That being said, sea level rise among the coastlines of the United States is not uniform and can be exacerbated by subsidence (sinking land), or reduced by uplift.[5]

Flooding from storm surges is an increasing concern as well. Approximately 8.6 million Americans or 2.8% of the US population lived within areas vulnerable to coastal floods in 2010. Even more concerning, over 120 million Americans live in counties located near an oceanic or Great Lake coastline that has a 100 year coastal flood plain located within it. The continuing

[5] Source: 2014 National Climate Assessment, “Our Changing Climate,” “Oceans” and “Coasts” chapters.

immigration of people to these coastal areas exacerbates the issue. Since 1980, there has also been increased storm activity, specifically along the Northeast and Northwest coastlines. Coastal areas will also see heavier runoff from inland areas. Changes in coastal areas because of climate change are threatening economic activity that accounts for approximately 66 million jobs and $3.4 trillion in wages in shoreline counties in 2010. Furthermore, coastal recreation and tourism have proven to be the largest and fastest growing sectors in the United States service industry and bring in 85% of the country's $700 billion in tourism revenue every year. [6]

The following table summarizes the implications of sea level rise for the SBA:

Impacted Office(s)	**Potential Risks**	**Risk Assessment Results**	**Mitigation Measures**
Office of Disaster Planning & Risk Management; Office of Administrative Services	Sea level rise and storm surges may threaten SBA's facilities in coastal cities and on islands.	Incremental sea level rise is unlikely to directly impact SBA's facilities that consist of short-term leased office space acquired through GSA. Storm surges may impact a subset of SBA's facilities that are located in areas prone to hurricanes. [7]	SBA's Continuity of Operations Plan has assessed risks to SBA's Missions Essential Functions from hurricanes and established mitigating measures. In addition, the Office of Administrative Services will work with the GSA to ensure SBA's leased facilities are not vulnerable to sea level rise and storm surges.
Office of Capital Access	Sea level rise and storm surges may create increased risks within SBA's 7(a) and 504 lending guaranty portfolios, particularly for loans within coastal communities or highly impacted sectors such as coastal tourism and fisheries, among	Because of the lack of current tools that can identify location specific risks (down to the zip code level) from future sea level rise and storm surges for a large quantity of data points, it is challenging for the SBA to accurately assess the risks to its existing portfolio. However, the Office of Credit Risk Management performed a preliminary analysis of the percentage of the SBA's	Prudent lender underwriting, servicing, and liquidation practices are the responsibility of the participating lenders and it is their expertise and local borrower and environmental knowledge that must primarily inform the prudent lending practices necessary to protect adequately against the threats caused by climate change. In addition, the SBA requires several forms of insurance[8] to

[6] Source: 2014 National Climate Assessment "Oceans" and "Coasts" chapters.

[7] National Capital Region, Puerto Rico, US Virgin Islands, Lower Rio Grande Valley, North Florida, South Florida, Hawaii, Houston and Louisiana.

[8] Hazard insurance is generally required for all assets pledged as collateral for business loans. In addition, businesses must provide proof that they meet the additional insurance requirements of their state (wind, etc.).

	others.	portfolio that is composed of 'industries with high climate risk' and determined that only 2.6% of SBA's 7(a) loans and 1.8% of SBA's 504 loans fall within these industry classifications.	further reduce the financial risk to the agency from a variety of weather events.
Office of Disaster Assistance (ODA)	Increasingly damaging storm surges may increase demand for ODA's resources.	According to the SBA's Disaster Preparedness and Recovery Plan, storm surges from hurricanes are one of the most damaging types of events that trigger a response from ODA.	As documented in the Disaster Preparedness and Recovery Plan, ODA runs several forecasts of demand for their services and has in place a rigorous system for increasing their capacity to respond to events, including events that are bigger than the largest response efforts conducted by the agency to date.

ii. Temperature Increases

The most recent decade was the warmest on record for the United States and warming is predicted to continue throughout this century. Average temperatures are predicted to increase 2-4 ° F in most areas of the United States over the next few decades and between 3-10 ° F by the end of the century, depending on the actual level of greenhouse gas emissions. The largest temperature increases are projected to occur in the upper Midwest and Alaska.[9]

A warming climate brings with it impacts on energy usage and human health. If the nation's climate warms by about 2°F, the demand for energy used for cooling would increase by about 5-20%, while the demand for energy used for heating would decrease by about 3-15%. Warming is likely to increase summer peak electricity demand in most regions of the United States. In addition, climate change will likely lead to more frequent, more severe, and longer heat waves in the summer, as well as less severe cold spells in the winter.

Marine vessels and related collateral must have marine insurance. In general, flood insurance is required for any collateral located in a Special Flood Hazard Area. There are limited exceptions to these requirements.

[9] Source: 2014 National Climate Assessment, "Our Changing Climate" chapter. The regions are pulled from the 2014 National Climate Assessment. Page 369 of the Assessment includes a map.

The impacts of future heat waves could be especially severe in large metropolitan areas. For example, in Los Angeles, annual heat-related deaths are projected to increase two- to seven-fold by the end of the 21st century, depending on the future growth of greenhouse gas emissions. Heat waves are also often accompanied by periods of stagnant air, leading to increases in air pollution and the associated health effects. [10]

Increasing temperatures will impact some small businesses across the country, particularly those businesses related to agriculture and fisheries. For any particular crop, the effect of increased temperature will depend on the crop's optimal temperature for growth and reproduction. In some areas, warming may benefit the types of crops that are typically planted there. However, if warming exceeds a crop's optimum temperature, yields can decline. Likewise, the ranges of many fish and shellfish species may change. Many marine species have certain temperature ranges at which they can survive.[11]

The following table summarizes the implications of temperature increases for the SBA:

Impacted Office(s)	**Potential Risks**	**Risk Assessment Results**	**Mitigation Measures**
Office of Human Resource Solutions	Severe heat events may pose health and safety risks to SBA's employees such as heat stroke and asthma related illnesses.	Because the SBA's employees work in climate-controlled office environments, severe heat does not pose a major threat to employee wellness during work hours. However, it is conceivable that severe heat events and the associated poor air quality may impact employee absenteeism.	If extreme heat events and poor air quality increasingly impact the SBA's employees, the SBA has multiple tools in place that could be used to provide assistance. These tools include: the SBA's Work Life Wellness program which promotes employee health through seminars and events; the SBA Daily e-mail notice system which could be used to disseminate basic health information; and the

[10] Source: http://www.epa.gov/climatechange/impacts-adaptation/energy.html; http://www.epa.gov/climatechange/impacts-adaptation/health.html#impactsheat

[11] http://www.epa.gov/climatechange/impacts-adaptation/agriculture.html

			Federal Occupational Health Employee Assistance Program.[12]
Office of Administrative Services	Energy efficiency and back-up power generation may become increasingly important for facilities occupied by the SBA.	While extreme heat events and energy demand surges are unlikely to directly disrupt the SBA's operations on a large scale, some local SBA offices may be impacted.	The SBA is currently seeking to improve the energy efficiency of its sites by collaborating with the GSA as part of the agency's sustainability goals. The SBA will also work with the GSA to ensure that back-up power generation is available for SBA's mission critical facilities.
Office of Capital Access	The impacts of temperature increases on agriculture and fisheries may pose risks to SBA's loan guaranty portfolios.	The Office of Credit Risk Management performed a preliminary analysis of the percentage of the SBA's portfolio that is composed of 'industries with high climate risk' and determined that only 2.6% of SBA's 7(a) loans and 1.8% of SBA's 504 loans fall within these industry classifications which included industries related to agriculture and fisheries.	Prudent lender underwriting, servicing, and liquidation practices are the responsibility of the participating lenders and it is their expertise and local borrower and environmental knowledge that must primarily inform the prudent lending practices necessary to protect adequately against the threats caused by climate change. The SBA also has a variety of tools in place to monitor risks to the SBA's loan guaranty portfolio.

iii. Increased Severe Weather Events

Climate change impacts severe weather in a variety of ways. For instance, the intensity of hurricanes is likely to increase. Since 1980, hurricane activity in the Atlantic has been increasing in terms of intensity, frequency, duration, and the number of Category 4 and Category 5 storms. These increases are due, in part, to higher water surface temperatures in the Atlantic where storms take form. As ocean temperatures continue to increase in the future, it is likely that hurricane rainfall and wind speeds will increase. Simulation models suggest for each 1.8˚F increase in tropical sea surface temperatures, core rainfall rates from hurricanes will increase by 6 to 8 percent and the surface wind speeds of the strongest hurricanes will increase by approximately 1 to 8 percent. In the eastern

[12] Notably, heat related illnesses are not addressed by this site (which is not controlled by the SBA). The SBA would be supportive of adding heat related illness information to the site. Asthma is addressed by the site, but only briefly. The SBA would be supportive of adding additional information regarding asthma to this site.

Pacific, severe hurricanes have become stronger since the 1980s, although the total number of storms has decreased.[13]

Floods and droughts are also likely to become more common and more intense. The frequency and intensity of heavy downpours have been increasing nationally over the last three to five decades, especially in the Midwest and Northeast portions of the United States.[14] The heaviest precipitation events have also seen an increase in their number and magnitude. These are predicted to increase the risk for flash flooding, which impacts land cover, flow and water-supply management, soil moisture, channel conditions and ground water aquifers. Floods will also decrease shipping through waterway closures and damages to ports and locks. More frequent heavy downpours and floods in urban areas, and more extensive coastal flooding will cause greater property damage, thus creating a heavier burden on emergency responders, and a growing financial toll on businesses and homeowners. The flood insurance program is already shifting through updated flood maps and other policies may have to be reevaluated. [15]

At the same time, droughts are also lengthening, especially in the southern and northwestern regions. Short term dry spells are projected to intensify in all areas of the United States while longer ones are expected to intensify in the Southwest, Southern Great Plains, and the Southeast.[16] Both floods and droughts will impact transportation through disruptions to rail and road traffic, thus increasing shipping costs. In addition, many parts of the country rely on ground water aquifers as their only water source and are extremely

[13] Source: 2014 National Climate Assessment, "Our Changing Climate" chapter; http://www.fema.gov/pdf/about/programs/oppa/climate_change_paper.pdf
[14] These regions are pulled from the 2014 National Climate Assessment. Page 369 of the Assessment includes a map.
[15] Source: 2014 National Climate Assessment, "Water" chapter ; http://www.fema.gov/pdf/about/programs/oppa/climate_change_paper.pdf
[16] These regions are pulled from the 2014 National Climate Assessment. Page 369 of the Assessment includes a map.

susceptible to these changing climate conditions in regards to their available water supplies.[17]

More broadly, many scientists and emergency managers recognize that other kinds of extreme weather events are also intensifying. They see the effects of climate change in events such as intensified wildfires, windstorms, and heat waves. There have been a number of record-setting severe weather events, from the Australian bushfires in February 2009, when hundreds of fires broke out during record-breaking temperatures, to the May 2010 flooding in Tennessee, which was the highest since recordkeeping began there in the 1880s. There has also been an increase in the frequency of winter storms across the entire Northern Hemisphere. While extremely heavy snow storms have increased since 1950, in the northern and eastern parts of the United States, the number has gone down since 2000. However, this is still on trend with the inconsistent pattern of heavier-than-normal snow falls in some years and little to no snow in other years. [18]

The following table summarizes the implications of increased severe weather for the SBA:

Impacted Office(s)	**Potential Risks**	**Risk Assessment Results**	**Mitigation Measures**
Office of Disaster Planning & Risk Management; Office of Administrative Services	Severe weather may impact the SBA's facilities.	Many of SBA's facilities are located in areas that may be impacted by severe weather including hurricanes, fires, floods, and winter storms.	SBA's Continuity of Operations Plan has assessed risks to SBA's Missions Essential Functions from severe weather and established mitigating measures. In addition, the Office of Administrative Services will work with the GSA to ensure SBA's facilities are not vulnerable to severe weather events.

[17] Source: 2014 National Climate Assessment, "Water" chapter
[18] Source: 2014 National Climate Assessment, "Our Changing Climate" chapter; http://www.fema.gov/pdf/about/programs/oppa/climate_change_paper.pdf

Office of Disaster Assistance	Increased numbers of severe weather events may increase demand for ODA's resources.	While the total number of major declared disasters has increased over time,[19] this has not entirely correlated to increases in volumes of approved home and business disaster loans.[20] Home and business loan volumes are also not entirely correlated to each other.	As documented in the Disaster Preparedness and Recovery Plan, ODA runs several forecasts of demand for their services and has in place a rigorous system for increasing their capacity to respond to events, including events that are bigger than the largest response efforts conducted by the agency to date.
Office of Capital Access	Increased severe weather events may pose risks to SBA's loan guaranty portfolios.	The Office of Credit Risk Management ran an analysis comparing the location of SBA's 7(a) and 504 loan guaranties to locations where a presidential declaration for a major disaster in a climate change relevant category[21] was declared in the last 20 years at the county level. This analysis failed to yield very useful data for targeted risk mitigation because the vast majority of counties where SBA's loans are located have experienced a declared disaster in the last 20 years.	Prudent lender underwriting, servicing, and liquidation practices are the responsibility of the participating lenders and it is their expertise and local borrower and environmental knowledge that must primarily inform the prudent lending practices necessary to protect adequately against the threats caused by climate change. Furthermore, the diversity of SBA's loan guaranty portfolio at a geographic and industry level helps to protect it from risk from an individual event. In addition, the SBA requires several forms of insurance[22] to further reduce the financial risk to the agency from a variety of weather events.

[19] According to data from FEMA the average number of major *declared* disasters per year was 33 in the 1970s, 24 in the 1980s, 46 in the 1990s and 56 in the 2000s. Source: http://www.fema.gov/disasters/grid/year.

[20]

	Total # of Approved Business Loans	***Total # of Approved Home Loans***
2000s	73,519	362,726
1990s	111,698	359,262
1980s	33,093	148,882
1970s	65,038	559,583

[21] Coastal storm, fire, fishing losses, flood, hurricane, severe storm, tornado.

[22] See footnote 7.

c. Climate Adaptation Considerations for the SBA's Supply Chain and Real Property

The SBA is a relatively small agency that occupies leased space acquired through the GSA and conducts routine procurements to maintain an office environment such as desktop computers, software systems, telecommunications systems and office furniture. Given these considerations, the SBA does not see a significant need at this time to conduct rigorous adaptation planning for its real property acquisitions, nor its procurement supply chain. Nevertheless, there are some limited measures the SBA has undertaken that may facilitate adaptation. For instance, in Annex B of the SBA's 2014 Continuity of Operations Plan, the SBA has determined which of the SBA's facilities house operations that are important to the execution of the agency's Mission Essential Functions and assessed their vulnerability to severe weather events. The assessment also identified the mitigating factors present that will ensure that no failure of a Mission Essential Function will occur.

In the future, it is possible that the SBA could use this assessment to inform future discussions with the GSA about the climate change resilience needs for SBA's leased facilities. In fact, during FY 2014 SBA engaged with GSA to discuss institution of such a system that takes climate change adaptation into account as part of its leasing program. Regarding acquisitions, the SBA has not identified any supply chain categories that are particularly vulnerable to climate change at this time. At this time the SBA is primarily interested in learning from other agency experiences regarding supply chain analyses.

d. Contributions to Coordinated Interagency Efforts

Several of the SBA's programs discussed in this Plan already involve interagency coordination including the Interagency Network of Enterprise Assistance Providers (INEAP), the Economy, Energy and Environment (E3) program and ODA's disaster loan activities which are frequently coordinated with FEMA and other emergency

response agencies. The SBA also participates in the following interagency forums related to climate change:

- Federal Climate Adaptation Community of Practice
- Council on Climate Preparedness & Resilience
- Inter-Agency Forum on Climate Change Impacts & Adaptations

In addition, the SBA recently sent three participants to the Climate Change Adaptation Planning Workshop that was facilitated by the National Exercise Program. The SBA plans to continue its involvement in these forums and would be interested in opportunities to participate in regional forums as well as the interagency community develops them.

III. Modernizing Federal Programs and Policies to Support Climate Resilient Investment

a. Supporting and Encouraging Climate Change Resilience

Executive Order 13653 requires that all agencies identify opportunities to support and encourage climate resilient investments by States, local communities, and tribes. In response to this requirement the SBA is focusing on ways to support climate resilience among the small business community that the agency and its resource partners serve. The table in Appendix I summarizes many of the programs discussed in this section.

i. Office of Disaster Assistance Programs

The Office of Disaster Assistance's (ODA) mission is to provide affordable, timely and accessible financial assistance to homeowners, renters and businesses following a declared disaster. SBA's low-interest disaster loans are the primary form of federal assistance for the repair and rebuilding of non-farm, private sector disaster losses. For this reason, the disaster loan program is the only form of SBA assistance not limited to small businesses. As of March 2014,

ODA has approved nearly 2 million loans that are cumulatively worth over $53 billion since SBA's inception in 1953.

(1) Disaster Loan Programs

In light of the impact of climate change on extreme weather events, SBA's disaster loan programs will continue to be important to the economic recovery of communities impacted by natural disasters. The SBA manages two loan programs that support economic recovery after a declared natural disaster: the Physical Disaster Loan program and the Economic Injury Disaster Loan (EIDL) program. These programs are available to disaster victims located in geographic areas that have been officially declared disaster areas. Different types of disaster declarations provide authority for different loan programs. Major disasters declared by the President trigger the Physical Disaster Loan program and EIDL program, as well as a variety of other support from other agencies. Physical disaster declarations by the SBA Administrator trigger the Physical Disaster Loan program and EIDL program. Economic injury disaster declarations by the SBA Administrator issued in response to a declaration by the Secretary of Agriculture or in response to a request by a governor trigger the EIDL program only.

A disaster is defined as a sudden event which causes severe damage. Disasters that may be declared by the SBA Administrator include, but are not limited to: floods, hurricanes, tornadoes, earthquakes, fires, explosions, volcanoes, windstorms, landslides or mudslides, tidal waves, commercial fishery failures or fishery resource disasters (as determined by the Secretary of Commerce under section 308(b) of the Interjurisdictional Fisheries Act of 1986), ocean conditions resulting in the closure of customary fishing waters, riots, civil disorders or other catastrophes. In addition, the SBA Administrator can issue economic injury disaster declarations for drought

and below average water levels in the Great Lakes, or on any body of water that supports commerce by small business concerns.

Physical Disaster Loans may be available to businesses of any size, nonprofit organizations, rental property owners, homeowners and tenants in rental properties as long as the applicants meet specific eligibility criteria.[23] Physical Disaster Loans are not available to agricultural enterprises such as agricultural producers, farmers or ranchers. SBA is prohibited by law from providing assistance to applicants whose losses are covered by insurance or other compensation.

In comparison, the EIDL program is only available to small business concerns that meet the size standard for their industry, small agricultural cooperatives, small businesses engaged in aquaculture and most private nonprofits. These entities must be located in the declared disaster area and have suffered, or are likely to suffer, substantial economic injury as a result of the disaster. They must also be unable to obtain credit elsewhere. SBA is prohibited by law from providing assistance to applicants whose losses are covered by insurance or other compensation.

In general, Physical Disaster Loans provide funds for the repair or replacement of disaster damaged property. The objective is to restore the property to its predisaster condition. Any improvement beyond predisaster condition is upgrading, and is not eligible. However, certain exceptions are authorized on a case-by-case basis, including a variety of efforts to mitigate damage from future disasters. For example, all property repaired or acquired with disaster loan proceeds must meet applicable building codes in effect at the time the necessary permits are obtained. The cost of making improvements to meet code requirements, including requirements for mitigating measures and protective devices necessary to obtain a permit or other similar approval to make repairs is eligible, although upgrades

[23] 13 CFR Part 123 has additional details about eligibility and other critical aspects of the disaster loan programs

necessary to meet building codes are not eligible for any relocation loans. Protective devices or mitigation measures in place before the disaster are also eligible for repair or replacement.

In some circumstances, additional protective devices and mitigation measures not in place prior to the disaster and not required by applicable building codes are eligible improvements under the Physical Disaster Loan program. Eligibility is based on the need for adding such a device or measure. Examples of these devices or measures include, but are not limited to: (1) Retaining walls; (2) Fences; (3) Seawalls or bulkheads; (4) Relocating utilities; and (5) Modifying structures. Modifications to protect personal property only are not eligible.

Notably, eligibility is exclusive to the damaged property and does not transfer if the applicant relocates. SBA cannot approve a loan for post-disaster mitigation only. The maximum eligible cost for post-disaster mitigation is 20 percent of the verified physical loss (before any duplicated benefits are deducted), and the total amount of the loan cannot exceed $200,000 for home loans and $2,000,000 for business loans. The proposed device or measure must protect or mitigate against damage from the same type of occurrence as the declared disaster (e.g., protection against future flood damage when the disaster was a flood).

The following table summarizes the usage of Physical Disaster Loans for mitigation and forced elevation[24] between Fiscal Years 2009 and 2013 as of March, 2014:

[24] Loans for forced elevation refer to funds required to meet flood mitigation requirements to meet a building code or to obtain a building permit.

Fiscal Year	Mitigation (# of Loans)	Mitigation ($ Approved)	Forced Elevation (# of Loans)	Forced Elevation ($ Approved)		Total ($ Approved)
2013	461	$10,774,940	627	$31,015,078		$41,790,018
2012	314	$2,392,800	58	$2,338,700		$4,731,500
2011	297	$2,492,500	21	$544,900		$3,037,400
2010	487	$4,712,300	29	$1,638,600		$6,350,900
2009	207	$3,736,000	66	$2,651,481		$6,387,481
Total	1,766	$24,108,540	801	$38,188,759		$62,297,299

In some cases disaster loans may be used to relocate and/or to add future disaster mitigation features to a property. Physical Disaster Loan funds may be used to relocate. By law, however, Physical Disaster Loan funds may not be used to relocate voluntarily outside the business area[25] where the disaster occurred. In cases of mandatory relocation, such as a refusal by the local government to permit rebuilding, among others, the loan may be used to relocate outside of the business area. Likewise, in cases of involuntary relocation[26] the loan may be used to relocate outside of the business area. In contrast, EIDL loans are for working capital purposes and may not be used to pay for the relocation of the business or business assets.

[25] Business area means the municipality that provides general governmental services to the damaged business or home. If not located within a municipality that provides general governmental services, then business area means the county or equivalent political entity in which the damaged business or home is located.

[26] Includes: (1) demonstrable risk that the business area will suffer future disasters; (2) change in employment status, such as employment transfers, loss of job, relocation for a new job, or lack of adequate job opportunities in the business area, or the implementation of scheduled retirement plans…; (3) medical reasons; (4) special family considerations…; (5) elimination or substantial decrease in the market for the business product or service as a consequence of the disaster; (6) change in the demographics of the business area …which makes it uneconomical to continue the business in the business area; (7) substantial change in business costs…(8) location of the business un a hazardous area such as a Special Flood Hazard Area; (9) change in the public infrastructure in the business area…(10) implementation of decisions adopted and partially implemented…to move the business out of the business area for good; or (11) other factors which undermine the economic viability of the business area.

The Physical Disaster Loan program may also be used to restore land associated with a primary residence or business operation. Most damage of this type is caused by flooding or other forms of moving water. Soil washouts and similar damages caused by excessive rainfall and flooding are eligible provided the cause is a direct result of the specific declared disaster. However, erosion or similar damage is not eligible, because it occurs over time and is not the direct result of any single declared disaster event. In order to approve funds to restore land damage ODA staff must consider the potential for recurring or continuing damage. Funds may be approved when: A shoreline or waterway boundary is stable to the point that future water damage is not likely to occur as the result of high tides, wind-driven water, wave action, or stream flows which might reasonably be expected but which would not constitute a new disaster declaration; or the applicant has used other resources to fund the installation of protective devices which will prevent expected high tides, wind-driven water or wave action, or stream flows from causing further land damage.

The disaster loan program's insurance requirements may also improve the resilience of communities rebuilding after a disaster. Two different kinds of insurance may be required: hazard insurance and flood insurance. The SBA does not require EIDL recipients to obtain business interruption insurance. The SBA requires hazard insurance on all secured loans to protect both the damaged property (real property and contents) and all insurable collateral. Depending on the type of loan and property involved the hazard insurance may also need to cover unsecured inventory. The hazard insurance purchased by the loan recipient must include coverage for the peril that caused the damage and the peril for which the disaster was declared, unless the common practice of mortgage lenders in the disaster area vary in their standard practice regarding this requirement.

The National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency, provides standards that guide

flood insurance requirements for SBA disaster loans. When an applicant applies for a disaster loan the SBA determines whether the property they will rebuild or relocate to is located in a Special Flood Hazard Area (SFHA). The SBA requires flood insurance on property within an SFHA[27] which can be insured in the following manners:

- For a homeowner, the property subject to the flood insurance requirement includes the residence, contents (personal property), and appurtenant structures;
- For a residential tenant, the property is the contents (personal property);
- For a business which operates in its own building, the property is the building, contents, and appurtenant structures; and
- For a business which operates in a leased location, the property is the business contents. When the borrower owns the structure on leased land we will require the borrower to obtain flood insurance on the leasehold improvements.

In addition, as a matter of policy, even if flood insurance is not required by the Flood Disaster Protection Act of 1973, the SBA will require flood insurance for applicants receiving Physical Disaster Loans when:

- Rising water caused the flood damage[28]; and
- The flooding caused damage to insurable real property and/or contents (including basements of insurable structures); and
- The borrower owns the real property that has been damaged by the flood or is responsible for making repairs to the damaged property.

Even if the flood damaged property is not taken as collateral, the damaged property must still be covered by flood insurance.

Likewise, for EIDL recipients flood insurance is required for credit reasons if the business location is not taken as collateral, but is in an SFHA or has been repeatedly flooded. Furthermore, ODA staff have discretion to require flood insurance when the disaster-damaged property is not located

[27] Note: when NFIP Nonparticipating Communities and Communities Under Sanction are involved additional complexities arise.

[28] However, flood insurance is not required if the cause of the flooding would not have been covered by NFIP flood insurance

in an SFHA, but is subject to risk of flood loss (e.g., the loan is to repair flood damage, such as machinery and equipment, etc., or the property has been repeatedly flooded). In certain circumstances, failing to obtain flood insurance prior to a disaster can also disqualify an applicant from obtaining an SBA loan (if flood insurance was required by a previous loan obtained through an SBA program, if insurance was required because the property is in an SFHA, etc.)

(2) Disaster Preparedness Outreach

The Office of Disaster Assistance also conducts outreach activities to the small business community to assist them with disaster preparedness and business continuity. For example, in June 2010 the SBA entered into a co-sponsorship agreement with the private contractor Agility Recovery to establish an educational website focused on business continuity planning and disaster recovery resources for small businesses called PrepareMyBusiness.org. [29] The site includes:

- Home Page: introduction, importance of preparedness planning, small business owner recovery stories.
- Disaster Resources Page: content provided by SBA including information on disaster assistance and disaster loans, etc.
- Education Page: highlighted educational webinars and provide links to archived Webinars.
- Planning Page: content provided by Agility Recovery Solutions including planning tool kit, and over 20 checklists including: risk analysis, critical business functions, vendor relationships, supplies and preparedness checklists for individual natural disasters.
- Testing Page: content provided by Agility Recovery Solutions including best practices for testing of preparedness plans and potential testing scenarios.

The SBA and Agility Recovery Solutions also cosponsor an educational webinar series focused on business continuity planning and disaster

[29] http://www.preparemybusiness.org/

recovery topics that are important for any small business owner. Topics include:

- Crisis Communications
- Testing Your Recovery Plan
- Protecting Your Business During Hurricane Season
- Ten Steps to Business Preparedness
- Role of Social Media in Disaster Recovery
- SBA Disaster Assistance Programs
- National Preparedness Month (One Webinar a week in September)
- Start Building Your Disaster Recovery Plan Today
- Supply Chain Management
- Winter Weather Preparedness
- Top 10 Mistakes Made During a Crisis

In 2012 the average monthly webinar registration was 655 individuals, with 395 average monthly attendants. Last year the average monthly webinar registration was 528, with 261 average monthly attendants.

In addition, the SBA's ODA Public Information Officers (PIOs), who are located in regions across the U.S., regularly provide information, answer questions and make presentations to inform, discuss and promote disaster preparedness. They share this knowledge with chambers of commerce, service organizations, trade and homeowners associations, Congressional staff, and officials from federal, state and local governments. PIOs explain that disaster preparedness for businesses and residents includes assessing risks and making a plan to respond to potential impacts. They recommend that businesses should identify potential impacts on staff, customers, suppliers, inventory, cash flow, communications, information technology, and equipment that are necessary to keep businesses operating. They also recommend that residents should plan for disaster impacts to their home and family. Residents and business owners are urged to review and update insurance, financial and other resources to provide the necessary means to sustain their families and businesses. Finally, PIOs suggest that businesses

should also have a plan to shelter employees in place until a disaster has passed.

ii. Programs in the Office of Entrepreneurial Development

The Office of Entrepreneurial Development's mission is to help small businesses start, grow, and compete in global markets by providing quality training, counseling, and access to resources. A major component of the Office of Entrepreneurial Development's work is carried out through grantee resource partners including Small Business Development Centers (SBDCs)[30], Women's Business Centers (WBCs)[31] and National SCORE Association[32] offices.

(1) E3: Economy, Energy and Environment Program

The SBA is one of six agencies that support the E3 Economy, Energy and Environment program[33]. The E3 program is a coordinated federal and local technical assistance initiative that helps communities work with their manufacturing base to adapt and thrive in a new business era focused on sustainability. E3 provides a comprehensive set of loan guarantee programs for small to medium sized manufacturers, who would like to make environmental, energy and lean improvements to their facility based upon E3 technical assessment reports. The SBA and local Small Business Development Centers work in tandem to recommend manufacturers to the program.

In addition, manufacturers may use the SBA's loan programs to achieve its goals within the E3 program. The SBA's 504 loan program provides long-term, fixed asset financing for small manufacturers of up to $5.5 million (per project). SBA's 7(a) loan program also provides

[30] http://www.sba.gov/content/small-business-development-centers-sbdcs
[31] http://www.sba.gov/content/women%E2%80%99s-business-centers
[32] http://www.sba.gov/content/score
[33] http://www.e3.gov/

guaranteed loans for small manufacturers for general business purposes, including the purchase of equipment and working capital up to $5 million. Upon completing an E3 assessment, the E3 team presents to the facility a list of recommendations, many of which can be implemented only with financial assistance. SBA can work with the company to locate guaranteed loans for specific recommendations. In addition, a local SBDC can help businesses: identify how equipment retrofitting can be integrated into their profit plan; provide services related to energy efficiency and green buildings for small businesses through energy competitive grants; rate manufacturing facilities as to their financial/business readiness for an E3 assessment; matriculate the facility to the E3 program for further development especially with respect to lean manufacturing best practices and energy efficiency and environmental improvements.

This program currently supports resilience to climate change among participating businesses and communities because of its focus on increased efficiency which can include both energy efficiency and water efficiency. Given the predicted impacts of climate change upon water availability, energy grids and energy supplies, the more efficient a manufacturer is, the more resilient they will be to these impacts. Moreover, the SBA recommends that the E3 program participants consider climate change adaptation more explicitly as a component of the assessments and technical assistance provided to participants in the future.

(2) Hurricane Sandy Small Business Disaster Relief: A Model for Future Disaster Recovery?

The Office of Entrepreneurial Development supported the Sandy Recovery and Disaster Readiness effort with a two-phased approach: Phase 1 was a short-term initiative for immediate needs and to primarily to help with recovery. It sent funds out to SBA partners to ramp up existing

counseling and training services. Phase 2 is focusing on long-term resiliency efforts through collaboration among our resource partners to improve efficiency and avoid duplication of efforts. The two phased approach supports jumpstarting the recovery process as well as investing in the rebuilding of the small business economic ecosystem while building enhanced resiliency strategies into existing businesses. Both phases were realized through two rounds of grant opportunities issued and managed by OED. The total funding opportunity for resource partners in Phase 1 was $5,811,000 and the total in Phase 2 was $13,189,000. These amounts total $19,000,000 which includes the impact of sequestration.

The goal of using the collaborative approach is to improve efficiency of business assistance delivery, to foster community-based formulation and coordination of services and to avoid duplication of efforts. Because of the ability of climate change to influence severe weather events, the development of this type of innovative approach to assist the small business community with disaster recovery, planning and future resilience can help communities be better prepared and able to adapt to climate change.

Following Hurricane Sandy, the Office of Entrepreneurial Development found that allowing Small Business Development Centers to assist out of state businesses during the disaster recovery period was important to meeting the needs of the impacted communities. Based on this experience and that from past disasters, the Office of Entrepreneurial Development is drafting language to amend the Small Business Act to allow Small Business Development Centers to assist out of state businesses in the aftermath of officially declared disasters, as defined under the Act.

(3) The Interagency Network of Enterprise Assistance Providers (INEAP)

The INEAP[34] was founded to support small and medium sized enterprises in the U.S. by establishing a network of federal business and technical assistance programs and nonprofit associations. Currently, the intent of the network is to learn more about other program's management and field operations, explore innovative service delivery opportunities, discuss the development of the information sharing networks, develop additional network synergistic skill capabilities and share proven best practices in policies and program impact assessments. The INEAP employs an informal, entrepreneurial approach to information sharing and finding ways to maximize government and private resources to better serve larger numbers of smaller enterprises to achieve greater economic impacts. In its short existence the INEAP has developed a reputation among Federal Agencies as a resource to leverage to reach smaller businesses and as a current resource of technical and business information.

One of the focus areas that INEAP members pursue is disaster preparedness assistance. In practice, this has led to meetings on the Business section of Ready.gov[35], the Extension Disaster Education Network[36] (a provider of disaster education resources delivered through the Land Grant University system) and a meeting on small business resiliency hosted by the National Association of Development Organizations[37]. Because of the influence of climate change upon severe weather events this type of cross-agency collaboration and idea sharing on disaster preparedness and recovery helps agencies avoid duplicative efforts, increases their ability to direct the public towards appropriate resources and fosters innovation.

[34] http://www.nist.gov/ineap/#
[35] http://www.ready.gov/business
[36] http://eden.lsu.edu/AboutEDEN/HowEDENWorks/Pages/default.aspx
[37] http://www.nado.org/category/resources/disaster-recovery/

iii. Programs in the Office of Capital Access: 504 Loans and Energy Security

The projected impacts of climate change will increase energy use in the summer and pose additional risks to a reliable energy supply. As a consequence, improving energy efficiency and energy security is critical to maintaining a resilient national economy. The SBA's 504 Loan Program provides financing for major fixed assets, such as equipment or real estate, and it includes components that promote energy efficiency and renewable energy production. The Energy Independence and Security Act of 2007 (the "EISA") amended SBA's 504 loan program by adding incentives promoting energy efficiency and renewable energy production. The stated goal of the EISA is to move the United States toward a greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of projects, buildings, and vehicles, to promote research on and deploy greenhouse gas capture and storage options, and to improve the energy performance of the Federal Government, and for other purposes.

Specifically, the EISA amended SBA's 504 loan program to allow for larger loan maximums per project for projects that reduce a borrower's energy consumption by at least 10 percent and for projects that generate renewable energy or renewable fuels, such as biodiesel or ethanol production. By providing incentives for increases energy efficiency and renewable energy production this program supports greater energy security in the U.S. in the face of climate change.

b. Barriers to National Resilience to Climate Change and Perverse Incentives that Increase Pubic Vulnerability to Climate Change Risks

During the cross-agency and one-on-one meetings with program offices that were used to create the contents of this plan both barriers to resilience and perverse incentives were discussed. During these discussions no program offices were able to clearly identify barriers to resilience or perverse incentives. Some consideration was given to ODA's disaster loan programs, but upon an examination of the loan program

requirements no clear barriers or perverse incentives were found because of the flexibilities built into the programs. These flexibilities include the ability of businesses and homeowners to relocate under certain circumstances and the ability of businesses and homeowners to use loan proceeds on mitigation measures. To ensure that barriers to resilience and perverse incentives were not overlooked or that new ones do not develop, the SBA will continue to monitor its programs in the future for both of these challenges.

IV. Conclusion

The SBA's climate change adaptation efforts are focused on three things: ensuring the SBA can continue to operate effectively in the face of climate change; helping small businesses prepare for the impacts of climate change; and providing support to communities impacted by natural disasters. The FY 2014 Climate Change Adaptation Plan establishes a strong risk management framework for assessing and managing risks to the agency and outlines how a variety of existing SBA programs contribute to adaptation efforts across the nation. The SBA is prepared to continue assessing its operations and programs in the future to continue identifying new risks, to determine whether any of the agencies programs create barrier to adaptation, and to identify opportunities to support climate change adaptation among the small business community. The SBA looks forward to continuing collaboration with other agencies to achieve these and other goals in the future.

Appendix I: Planning for Climate Related Risk

Action Description:	**Continue updating and implementing SBA's Disaster Preparedness & Recovery Plan (DPRP)**	**Continue updating and implementing SBA's Continuity of Operations Planning**	**Incorporate climate change risks into the Enterprise Risk Management Program**	**Partner with the GSA to ensure SBA's facilities are resilient to climate change.**
Action Goal:	To comply with Presidential Policy Directive 8, National Preparedness and to ensure the SBA is prepared to respond to disasters.	To comply with Executive Order 12656 and several Presidential Directives as part of the Federal Continuity of Operations policies and programs.	To incorporate climate change risks into the Enterprise Risk Management Program in FY 2015.	To identify ways to ensure SBA's facilities, especially vulnerable and mission critical ones are resilient to climate change.
Agency Lead:	Office of Disaster Planning & Risk Management	Office of Disaster Planning & Risk Management	Office of Disaster Planning & Risk Management	Office of Administrative Services
Risk or Opportunity:	Managing risks from severe weather events.	Managing risks from severe weather events.	Managing all identified risks[38] to missions and operations from climate change.	Managing risks from severe weather and energy insecurity.
Scale:	The DPRP takes into account programs from across the agency.	COOP Planning takes into account programs and facilities across the agency.	Enterprise Risk Management assesses programs across the agency.	Facilities may be prioritized by vulnerability and mission criticality.
Timeframe:	The DPRP is updated annually.	The SBA's COOP plans are updated annually.	The Enterprise Risk Management program conducts annual assessments.	The SBA will engage the GSA in discussions during FY 2015.
Implementation Methods:	The drafting, updating and implementation plan is executed according to an established internal procedure.	The drafting, updating and implementation plan is executed according to an established internal procedure. Agency-wide trainings and exercises are also conducted.	Creating risk registers prioritizing risks for further analysis and action.	Collaborate with the GSA to identify ways to increase the resilience of the SBA's leased facilities.

[38] In FY 2014 identified risks included: sea level rise and increased storm surges; temperature increases; increased severe weather events.

Performance Management:	Assessments of changes to the operational environment; after-action reviews.	Assessments of changes to the operational environment; results from exercises are evaluated.	The extent to which agency leadership understands the greatest risks to the Agency and uses this information in strategic planning and to allocate risk-management resources.	To be determined.
Inter-governmental Coordination:	Processes coordinated with federal guidance and protocols for preparedness (e.g., the *National Response Framework* (NRF) and the *National Disaster Recovery Framework* (NDRF)).	Coordinated with federal Continuity of Operations policies and programs.	N/A	Coordination with the GSA is required.

Appendix II: Supporting & Encouraging Climate Change Resilience

Action Description:	**Continue implementing SBA's disaster lending programs.**	**Continue conducting disaster preparedness outreach to small businesses.**	**Continue E3 Economy, Energy and Environment Program.**	**Use the response to Hurricane Sandy as a model for future collaboration across small business resource partners in response to a disaster.**	**Continue INEAP**	**Continue 504 loan guarantees for energy efficiency and renewable energy upgrades**
Action Goal:	To support communities impacted by declared disasters.	To encourage small businesses and communities to be prepared to the impacts of severe weather.	To help communities work with their manufacturing base to adapt and thrive in a new business era focused on sustainability.	Build upon the partnership grant program established in response to Hurricane Sandy to create similar response programs during future natural disasters.	To support disaster preparedness among the small business community.	To increase energy efficiency and energy security.
Agency Lead:	Office of Disaster Assistance	Office of Disaster Assistance	Office of Entrepreneurial Development	Office of Entrepreneurial Development	Office of Entrepreneurial Development	Office of Capital Access
Risk or Opportunity:	Opportunity to assist communities with their recovery from severe weather events.	Opportunity to increase the preparedness and resilience of small businesses and local communities.	Opportunity to increase energy efficiency and energy security for manufacturers.	Opportunity to assist communities with their recovery from severe weather events.	Opportunity to increase the preparedness and resilience of small businesses and local communities.	Opportunity to increase energy efficiency and energy security for small businesses.
Scale:	Nationwide for declared disasters**.**	Nationwide. Webinars are available and information is provided across the country.	644 assessments have been conducted across the country as of June, 2014.	1 pilot grant program has been established in response to Hurricane Sandy.	3 interagency events were held as of June, 2014 with a focus on disaster preparedness and/or resilience.	Nationwide. Since 2008 $1.23 billion in loan guarantees have been made to nearly 600 recipients under this program.

Timeframe:	Ongoing program	Ongoing program	Ongoing program	The Hurricane Sandy grant program will be completed during FY 2015.	Ongoing interagency group	Ongoing program
Implementation Methods:	The disaster lending programs are implemented according to regulations and established procedures.	Through preparemybusiness.org and webinars conducted through a co-sponsorship agreement and through information provided by Public Information Officers.	E3 provides a comprehensive set of loan guarantee programs for small to medium sized manufacturers, who would like to make environmental, energy and lean improvements to their facility based upon E3 technical assessment reports	Grants were awarded to those entities that articulated a strong vision and plan for providing delivery of long-term economic small business recovery and resiliency that was specific to the collaborative approach of the partners along with regional or local economic development entities or initiatives.	Holding interactive interagency forums with themes related to disaster preparedness and resiliency.	SBA's 504 loan program allows for larger loan maximums per project for projects that reduce a borrower's energy consumption by at least 10 percent and for projects that generate renewable energy or renewable fuels, such as biodiesel or ethanol production.
Performance Management:	To be determined.	Performance can be measured by number of webinar attendees, number of trainings and information sessions provided, etc.	Performance metrics for the E3 program are available at: http://www.e3.gov/accomplish/results.html	Number of trainings provided, among other metrics.	N/A	Loan guaranty quantity and dollar value.
Inter-governmental Coordination:	Emergency response and preparedness is coordinating with FEMA and other emergency response agencies.	N/A	Six agencies collaborate to manage the E3 program.	N/A	INEAP is an interagency forum.	N/A

U.S. SMALL BUSINESS ADMINISTRATION
WASHINGTON, D.C. 20416

OFFICE OF THE ADMINISTRATOR

U.S. Small Business Administration Climate Change Adaptation Policy Statement

The U.S. Small Business Administration (SBA) is committed to implementing Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance,* and Executive Order 13653 *Preparing the United States for the Impacts of Climate Change*. The Federal Government has a critical obligation to carry out climate adaptation planning because climate change directly affects a wide range of federal services, operations, programs, and assets, and has broad implications for the U.S. economy and national security. The SBA is committed to collaborating with other federal agencies, as well as partners in States, territories, local communities and tribes, to meet the challenges posed by climate change.

In light of the goals under EO 13653 there are three priority areas of consideration for the SBA:

- Encouraging resilience and preparedness among the small business community
- Ensuring SBA's lending, disaster assistance, and business development programs promote adaptation and resilience, where possible and appropriate, and do not create unnecessary barriers to adaptation
- Ensuring climate change related risks to SBA's mission, loan portfolio, and operational capacity are identified and appropriately managed

The SBA's mission is to aid, counsel, assist, and protect the interests of small business concerns, to preserve free competitive enterprise, and to maintain and strengthen the overall economy of our nation. Consequently, the SBA is uniquely positioned to promote disaster preparedness and business continuity planning among small businesses to increase their resilience to climate change. In addition, the SBA must regularly review its lending, disaster assistance, and business development programs to ensure they continue to support resilience and adaptation whenever possible.

Furthermore, the SBA must effectively identify and manage risks to the agency's programs and operations, so that the agency may continue to properly execute its mission. Using the agency's new enterprise risk management framework the SBA will evaluate risks posed by climate change on an annual basis. In addition, this framework will be supported by SBA's Continuity of Operations Plan and Disaster Preparedness and Recovery Plan. The SBA will rely on the best available science, including the most recent National Climate Assessment, to conduct its climate change risk management activities.

The SBA's Senior Sustainability Officer is responsible for verifying implementation of all aspects of this Policy.

June 19 2014

Maria Contreras-Sweet
Administrator
U.S. Small Business Administration

Date