

**FEDERAL ACCOUNTING STANDARDS ADVISORY BOARD**  
**Board Meeting Minutes**  
**December 15-16, 2020**  
**WebEx and Teleconference**

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For research purposes, please see the briefing materials at [www.fasab.gov](http://www.fasab.gov). Briefing materials for each session are organized by tab; references to these tabs in the minutes are hyperlinked.

**Tuesday, December 15, 2020**

**Attendance**

The following Federal Accounting Standards Advisory Board (FASAB or “the Board”) members were present throughout the meeting: Messrs. Scott (chair) and Bell, Ms. Bronner, Mr. Dacey, Mses. Harper and Kearney, and Messrs. McNamee, Patton, and Smith. The executive director, Ms. Valentine, and general counsel, Ms. Motley, were also present throughout the meeting. Ms. Valentine conducted a verbal roll call of the members.

## **Administrative Matters**

- **Approval of Minutes**

The Board approved the October meeting minutes prior to the meeting.

- **Updates and Clippings**

Mr. Scott asked the members if there were any comments on the clippings.

Mr. McNamee suggested that the Board look into holding an education session on the sustainability of the federal government's fiscal policy. He noted that there are varying views on whether the current policies are sustainable and it would be good to hear those views.

Ms. Reese, Governmental Accounting Standards Board (GASB) senior project manager, provided a brief overview of the recent activities of the GASB. She mentioned three due process documents out for comment—revenue and expense preliminary views, recognition of elements of financial statements concepts, and financial reporting model reexamination. She also mentioned GASB's work on the disclosures concepts; compensated absences; risks and uncertainties; and prior period adjustments, accounting changes, and error corrections. The Board was particularly interested in the prior period adjustments, accounting changes, and error corrections project. One member noted that FASAB's guidance may need clarification in that area.

Mr. Scott noted the extensive outreach efforts in the past two months from both Board members and staff.

Mr. Savini, assistant director, introduced a new FASAB detailee, Ms. Renita Ferguson. Ms. Ferguson graduated from Bowie State University with a master's degree in Administration and Accounting, and is, although currently assigned to us, a supervisory accountant in the Financial Management Division of the Chief Financial Officer's office at the Citizenship and Immigration Services Bureau of Homeland Security. Ms. Ferguson will be conducting researching on codification schemas. The members and staff welcomed Ms. Ferguson.

## **Agenda Topics**

- **Technical Clarifications: Debt Cancellation**

Ms. Batchelor, assistant director, explained the objective of the session was to update the Board on the debt cancellation issue that was last presented at the June 2020 meeting and assess whether the Board wants to move forward with the Interpretation or defer the issue as part of the reexamination of existing standards project. The staff provided materials for the session in [tab B](#) of the briefing materials.

Ms. Batchelor provided the Board a short overview of the history of the project by explaining that staff first presented the issue to the Board in October 2019 and members last discussed it at the June 2020 Board meeting. At the June 2020 meeting a majority of the Board was supportive of the draft Interpretation, however a member suggested the Board consider a short-term solution through a limited scope Interpretation and address other issues when the Board reassesses Statement of Federal Financial Accounting Standards (SFFAS) 7, *Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting*, in the reexamination of existing standards project. Staff had expressed concern at the June 2020 Board meeting regarding this approach because staff did not believe it would resolve the issue. FASAB staff agreed to meet with all parties—the Department of Homeland Security (DHS), Treasury representatives, and auditors—to ensure the draft Interpretation through paragraph 9 would fully resolve the debt cancellation issue.

Ms. Batchelor explained that FASAB staff and Treasury representatives met with the appropriate parties and determined that the short-term proposal as suggested would not resolve the issue. The parties confirmed that the full Interpretation, as previously reviewed by the Board, was necessary to resolve the debt cancellation issue.

Ms. Batchelor asked whether the majority of the Board preferred to move forward with the Interpretation or defer the issue as part of the reexamination of existing standards project. Staff recommended moving forward with the Interpretation because the relevant parties had confirmed that the draft Interpretation would resolve the issue. While staff acknowledged that the work completed to-date could be used in the reexamination project, staff would not want the entire issue to be redeliberated when there has been such a focused effort on this topic over the past year plus. Staff noted that a majority (eight members) of the Board had provided responses to the staff questions prior to the meeting and most had indicated a preference for moving forward with the Interpretation. Staff explained that members did not have comments on the Interpretation nor the meeting with DHS. Mr. Scott suggested that members comment on any of the staff questions as he polled them on question 4 (noted below).

**Question 1 – Does the Board have any questions regarding the meeting with the DHS representatives?**

Members did not have additional comments.

**Question 2 – Does the Board agree with the staff recommendation that no further action is required regarding footnote 43 and change in current practices for purposes of the Interpretation?**

Members did not have additional comments.

**Question 3 – Does the Board agree with the staff recommendation to edit paragraph 11 and A19 and that no further action is required?**

Members did not have additional comments.

**Question 4 – Does the Board wish to move forward with the draft Interpretation? Alternatively, does the Board prefer to defer the issue until the reexamination project or not address?**

The majority of the Board agreed to move forward with the draft Interpretation.

**Question 5 – Do members have any suggested edits or changes to the draft Interpretation, *Debt Cancellation: An Interpretation of SFFAS 7 paragraph 313*?**

One member suggested additional clarification may be needed to explain debt cancellation activity within the SCNP and the interrelationship with the terminology used in the Office of Management and Budget (OMB) Circular A-136, *Financial Reporting Requirements* (form and content). Staff explained that neither definitions nor additional background could be provided for the sub-section classifications “Budgetary Financing Source” and “Other Financing Source” as used by OMB in A-136. The classifications are not a required element or disclosure by GAAP and there have been noted inconsistencies. Given it is not required, the Board agreed clarification should be provided. Ms. Kearney agreed and suggested that any revisions necessary to A-136 would be considered to support the effort. Staff will work with the sponsor agencies to include appropriate clarifications.

**Next steps:** The Board agreed to move forward with the draft Interpretation, pending incorporation of additional clarifying edits from members. The Board agreed to clarify debt cancellation activity within the SCNP and the interrelationship with OMB Circular A-136. Once the clarification has been addressed, staff will provide the Board a pre-ballot Interpretation, *Debt Cancellation: An Interpretation of SFFAS 7 paragraph 313*.

The Board meeting adjourned for lunch.

- **Note Disclosures**

Mr. Simms, assistant director, introduced the note disclosures discussion from [tab C](#) of the briefing materials. The Board considered concepts discussing the following types of information note disclosures present:

- A. Relevant information integral to understanding line items of financial statements
- B. Context or background information regarding the reporting entity and its activities
- C. Past events, current conditions, and circumstances not previously recognized but may affect an entity’s operating performance and stewardship
- D. Other information to demonstrate the reporting entity’s stewardship and accountability

**Question 1 – Do members have suggestions for enhancing the types of note disclosures?**

Members agreed that the four types of note disclosures were relevant and suggested edits to their descriptions. In particular, members wanted to enhance the description for type D (other information to demonstrate the reporting entity's stewardship and accountability). Members noted that type D appeared to encompass type C (past events, current conditions, and circumstances not previously recognized but may affect an entity's operating performance and stewardship). Members suggested defining the term *accountability* and reviewing the characteristics of fiduciary activity because the description of type D references the government's fiduciary role.

**Question 2 – Does the Board have suggestions for additional note disclosure concepts?**

Members noted that cost and benefit considerations would be relevant to the note disclosures concepts. Also, the proposed concepts statement could include language that discusses that preparers may need to present additional disclosures that the Board does not require so that the financial statements are not misleading.

In addition, Mr. Simms provided an overview of how the Board might amend Statement of Federal Financial Accounting Concepts (SFFAC) 2, *Entity and Display*, to incorporate the new concepts regarding the types of note disclosures. The Board generally agreed to consider amending SFFAC 2 as opposed to creating a new standard.

**Next steps:** Staff will incorporate the Board's comments in a draft amended version of SFFAC 2.

- **Reexamination of Existing Standards**

Ms. Batchelor directed the Board to [tab D](#) – reexamination technical plan. She noted that an extensive project plan would first need to be developed and approved by the Board before any project work began. She informed the Board that the project plan itself will take several months and will require the input of the full staff. Ms. Batchelor stated that it took thirty years to create the full portfolio of pronouncements and there has never been an effort to reexamine that portfolio. She also reminded the Board that the reexamination project would better prepare the Board and staff for codification of the guidance, which is one of the Board's goals. Several potential approaches and factors are being considered for the reexamination project, including looking at reexamination topically, reviewing terminology used throughout the guidance, and considering user needs, as well as the cost/benefits of the guidance.

Staff presented the following questions to members:

**Question 1 – Do members agree with pursuing a project on reexamining existing standards in accordance with the proposed technical plan?**

**Question 2 – Do members agree with staff’s next steps to perform an assessment of existing standards and develop options for Board consideration?**

**Question 3 – Do members wish to share any other observations or views regarding the project or technical plan?**

Members decided to address all three questions at once because they all generally ask the Board’s thoughts on staff moving forward with researching the topic.

Members made the following comments:

- Reexamination is an important project. The Board should consider codification and a topical approach.
- The project plan will be very important to the success of the project. The Board should establish project objectives and consider the pros and cons of the potential approaches.
- It will be important to identify what the most significant problem areas are and target the most significant and cost/beneficial items. This will require feedback from the community to identify what is not working along with potential solutions.
- One member noted a professional project-management approach with oversight and validation steps would be beneficial to manage the effort among multiple parties.
- It will be essential to leverage all available resources.
- The Board should develop metrics for success as well as a strategy for continuous reexamination beyond the initial project. How can we make reexamination part of our ongoing process?
- The Board needs to consider how the reexamination of one pronouncement or topic affects other guidance or topics.
- The Board should be sure to include external users, outside of just preparers and auditors, as it develops a plan for reexamination.
- This project will be a great opportunity to enlist the support of detailees and fellows.
- It will be important to tackle this project in manageable segments by prioritizing what areas are most important.

The Board approved the reexamination of existing standards technical plan.

**Next steps:** Staff agreed to return to the Board in the coming months to provide a more detailed project plan and options for tackling the reexamination project.

- **Intangible Assets**

Mr. Williams, senior analyst, briefed the Board on the intangible assets technical plan provided in the memo at [tab E](#). He began by explaining how the project came to be of interest to the Board and how his initial observations are that agencies are interested in the project and express a particular need for guidance addressing technological based assets, such as software licenses and subscription based information technology arrangements.

Mr. Williams clarified that the intended next step of the project is to establish a task force with financial statement users, preparers, and auditors to research the existence and significance of various potential intangible assets across federal agencies. He stressed the importance of having not just accounting professionals but also operational and technical experts on the task force to provide unique insight into the existence of all potential intangible asset types, as well as the practicality of measurement and recognition of them. If the Board determines that more research is necessary after analyzing and considering initial task force results, then staff may pursue additional research avenues, such as developing survey questions for a broader federal agency participant pool.

Mr. Williams addressed the project objective and the primary accounting issues that the project will address. Staff first intends to identify existing intangible asset value throughout agencies without predetermining the practicality of measuring or recognizing the assets on the financial statements. Then, the next step is to consider if preparers can reasonably measure and recognize the identified intangible assets on the financial statements and if doing so benefits users.

Mr. Williams thinks this is an important and timely project because as economies advance, resources are increasingly intangible and, without guidance, there is potentially a significant amount of asset value left off federal financial statements. He noted, however, that it is fundamentally difficult to separate and measure the value of intangible resources accurately, which conflicts with the conservatism principle of not recognizing assets unless the value and existence is certain.

Staff presented the following questions to members:

**Question 1 – Do members agree with pursuing a project on intangible assets in accordance with the proposed technical plan?**

**Question 2 –Do members agree with staff’s next steps to conduct a survey and form a task force to determine the applicability and significance of intangible assets across federal entities?**

### **Question 3 – Do members wish to share any other observations or views regarding guidance on intangible assets?**

Members decided to address all three questions at once because they all generally ask the Board's thoughts on staff moving forward with researching intangible assets.

The Board approved the intangible assets technical plan to research the significance of various intangible assets that exist throughout federal agencies. Using this initial research, members will consider ultimately approving a project to develop accounting and financial reporting guidance for intangible assets that are not within scope of another more appropriate standard. Most members stated that this is an important and timely project and agreed with the proposed approach of beginning the effort with a broad mindset to consider the spectrum of possibilities and then later narrow the scope based on established criteria. Additionally, members supported the planned next step to form a task force for research efforts. They stated that inclusive task force representation is critical for success.

Some members expressed the need to be sensitive to the importance of meeting the financial statement user needs that current guidance does not already address and that an overly broad scope could be too burdensome for preparers. One member expressed skepticism that additional guidance would better inform users of the federal government's financial situation and cautioned that additional guidance could create unnecessary work for the Board and preparers.

### **Adjournment**

The Board meeting adjourned for the day at 3:30 p.m.

### ***Wednesday, December 16, 2020***

### **Agenda Topics**

- **Education Session: Fiscal Exposure & Climate Risk for the Federal Government**

Ms. Gilliam, assistant director, coordinated an education session with the slides in [tab F](#) about the fiscal exposure and climate risk for the federal government. The slides are included with the minutes as an attachment. There were four subject matter experts on the panel:

- Mr. Adam Smith, the lead scientist for the National Oceanic and Atmospheric Administration's (NOAA) U.S. Billion-dollar Weather and Climate Disasters research,<sup>1</sup> analysis and public/private data partnerships

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<sup>1</sup> NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). <https://www.ncdc.noaa.gov/billions/>, DOI: 10.25921/stkw-7w73

- Mr. J. Alfredo Gómez, a director of the Natural Resources and Environment team of the U.S. Government Accountability Office (GAO)
- Mr. Joe Thompson, an assistant director in GAO's Natural Resources and Environment team
- Ms. Ann Kosmal, an architect at the General Services Administration's Office of Federal High-Performance Buildings

After the panelists completed their presentations, Ms. Gilliam invited the members to ask the panelists questions.

### **What climate information do the panelists believe would be appropriate for the users of the annual financial report?**

Mr. Gómez explained that GAO researched this question by looking at companies' financial disclosure reports of climate risk exposure submitted to the Securities and Exchange Commission (SEC). Examples include insurance or energy companies. GAO asked what kind of information these companies were reporting and whether the financial disclosures were useful and helpful for investors to understand if there was a material risk. The report noted that information in SEC financial disclosure reports is not consistent among companies and information is not sufficient for people to get a better understanding of climate risk.<sup>2</sup>

Mr. Thompson added that over the past 15 years, GAO has conducted detailed reviews of OMB's climate change funding reports about the federal government.

OMB is not reporting what GAO thinks of as fiscal exposures in federal financing such as the cost to repair, replace, and improve the resilience of federally funded property and resources; the cost of federal crop insurance programs; and the cost of disaster assistance. Agencies can estimate these fiscal exposures.<sup>3</sup>

Because it is difficult to specifically identify what climate change costs, agencies should focus on whether they have the right approach to risk management in place to account for climate risks and how they affect operations.<sup>4</sup>

Ms. Kosmal said that, speaking as a taxpayer advocating for transparency, agencies should disclose if they received a supplemental emergency appropriation for a natural disaster and how it funded the replacement or repair of assets that were impacted by that natural disaster.

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<sup>2</sup> GAO, *Climate-Related Risks: SEC Has Taken Steps to Clarify Disclosure Requirements*, GAO-18-188 (Washington, D.C.: Feb. 20, 2018).

<sup>3</sup> GAO, *Climate Change: Analysis of Reported Federal Funding*, GAO-18-223 (Washington, D.C.: Apr. 30, 2018), 34.

<sup>4</sup> GAO, *Climate Change: Information on Potential Economic Effects Could Help Guide Federal Efforts to Reduce Fiscal Exposure*, GAO-17-720 (Washington, D.C.: Sep. 28, 2017).

She recommended that agencies answer the following question in disclosures for supplemental appropriations received for a natural disaster: Are the funds going to improve the asset to be robust enough to withstand the next hurricane, drought, or other natural disaster that originally impaired the asset (attributed and detected with climate signals) or is funding just to return the asset back to the previous state?

**Are agencies getting information from NOAA to help inform their budget, subsidy, and risk analysis?**

Mr. Smith replied that federal agencies are often not very forthright with coordinating data sharing. However, he is on a few interagency teams that include the National Aeronautics and Space Administration (NASA), NOAA, Federal Emergency Management Administration (FEMA), the U.S. Geological Survey, and other agencies that contribute to the United Nations Office for Disaster Risk Reduction's [Sendai Framework for Disaster Risk Reduction](#). This information enhances reporting and analyses to provide better transparency and coordination.

**How does NOAA define “costs” and what is the basis of measurement?**

Mr. Smith answered that slide nine shows eight different public or private sector data sources that NOAA uses to quantify total direct losses. NOAA quantifies business interruption as a direct cost, which includes private sector paid claims, public sector paid claims, FEMA public and individual assistance, and data from the Small Business Administration, United States Department of Agriculture (USDA) crop insurance, and National Flood Insurance Program (NFIP).

**What is the gap for accounting, reporting, and risk disclosures in relation to natural disasters and the history of climate changes?**

Mr. Thompson noted that GAO's work in climate change and disasters shows that, historically and up until very recently, the federal response to disasters was to wait for a disaster and then provide supplemental appropriations. There are only a few programs, such as FEMA and the NFIP, that historically have spent money up front to try to buy down climate-related risks ahead of time. GAO has encouraged the federal government to start thinking about how to buy down its risk ahead of time instead of waiting for a disaster.

There has been some progress recently with building resilience. FEMA provides pre-disaster investment [grants](#) through the [Building Resilient Infrastructure and Communities](#) Program.

Mr. Smith said that, from a macroeconomic perspective, it is very important for the federal government to more proactively think ahead about how to mitigate and buy down future risks and future costs. This is because climate signals show that a growing number of hazards in some regions, such as wildfires and drought vulnerability in the west, flooding in the eastern part of the country, and hurricanes at the coast, are

accelerating costs due to more exposure and more vulnerability. Climate signals are long-term trends and projections that carry the fingerprint of climate change.<sup>5</sup>

Ms. Kosmal agreed with Messrs. Thompson and Smith and added that the objective is risk management and prevention to maintain life-safety functions of federal assets and protect occupants that do business in them.

**What is the percentage difference between private and federal government cost estimates?**

Mr. Smith noted that the public and private split varies depending on the impact of the hazard, how it is underwritten in the public or the private sector, and how much is insured versus uninsured. In recent years, U.S. disaster costs have higher uninsured losses than insured losses because the NFIP at FEMA has low participation rates in much of the country.

**Has GAO researched if all federal agencies participate in a prioritized program that consistently assesses climate risk and the extent climate risk can be mitigated?**

Mr. Gómez explained that during the Obama administration, there was a requirement for agencies to put in place a climate adaptation plan, assess their vulnerability, and look at how their operations might be at risk from climate, for example, supply chain interruptions. GAO did an audit of the climate adaptation plans, which varied. Some had a lot of information while some were just a few pages. However, agencies were starting to understand how climate risk could affect operations.<sup>6</sup>

Mr. Thompson explained that, due to a lack of administrative priority, agency adaption plans are inconsistent. For example, the Department of Defense (DoD) has continued to conduct vulnerability assessments, which GAO has reported on. GAO recently issued a report that looked at DoD's operations with regard to surrounding communities from where the department gets many of its services.<sup>7</sup> Therefore, DoD is still actively assessing its vulnerability from a facilities-management standpoint and just starting to figure out what to do about the related risks. NASA has also been active in assessing the vulnerability of its centers and other facilities.<sup>8</sup>

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<sup>5</sup> "What are climate signals?", accessed January 15, 2021, <https://www.climatesignals.org/climate-signals#:~:text=Climate%20signals%20are%20long%2Dterm,the%20fingerprint%20of%20climate%20change.&text=Climate%20Signals%20is%20a%20digital,the%20impacts%20of%20climate%20change>

<sup>6</sup> GAO, *Federal Supply Chains: Opportunities to Improve the Management of Climate-Related Risks*, GAO-16-32 (Washington, D.C.: Oct. 13, 2015).

<sup>7</sup> GAO, *Climate Resilience: DOD Coordinates with Communities, but Needs to Assess the Performance of Related Grant Programs*, GAO-21-46 (Washington, D.C.: Dec. 10, 2020).

<sup>8</sup> GAO, *Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers*, GAO-13-242 (Washington, D.C.: Apr. 12, 2013).

Ms. Kosmal added that, being in the executive branch, she has observed advancements in detection and attribution science, which are used to connect climate signals to specific extreme events that damage or impair assets. Therefore, climate change is becoming an important aspect of risk management and readiness.

Mr. Thompson added that this is an institutional issue. While agencies may want to create climate adaption plans, most likely many do not understand how. This is because there is no government-wide institution to help agencies make progress in an easy way, such as from a national climate information system.<sup>9</sup> A government-wide institution could provide authoritative projections and observations to help agencies easily build them into their processes.

Mr. Smith noted a NOAA resource that integrates risk and planning information: <https://toolkit.climate.gov/>.

**Are there any projections or estimations of the actual federal costs for what government would cover for climate and disaster situations?**

Mr. Smith replied that NOAA partitions each of the 279 separate billion-dollar disasters at the state level but does not break that down by asset class, like commercial, residential, auto, government, and crops, etc. However, he highlighted that hurricanes have caused the greatest share of cost impact, citing that NOAA has analyzed about 50 hurricanes since 1980. Each hurricane was a billion dollar plus event. The aggregate cost of those 50 hurricanes, inflation-adjusted, is about one trillion dollars.<sup>10</sup> Much of that cost is due to the immense number of assets along the U.S. coast.

Mr. Smith's work also includes understanding the costs related to the recent destruction of DoD installations. This includes Camp Lejeune in North Carolina and Tyndall Air Force base in Florida, which were impacted by two different hurricanes. This also includes Offutt Air Force base in Nebraska, which was impacted by inland flooding.<sup>11</sup>

Ms. Kosmal noted the following organizations, which include costs and future risks in their research reports:

- [Fourth \(2018\) National Climate Assessment](#) by the [U.S. Global Change Research Program \(USGCRP\)](#)
- [Rhodium Group](#)

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<sup>9</sup> GAO, *Climate Information: A National System Could Help Federal, State, Local, and Private Sector Decision Makers Use Climate Information*, GAO-16-37 (Washington, D.C.: Nov. 23, 2015).

<sup>10</sup> NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). <https://www.ncdc.noaa.gov/billions/>, DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

<sup>11</sup> NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2021). <https://www.ncdc.noaa.gov/billions/>, DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

- [Task Force on Climate-related Financial Disclosures](#)

**How does the United States compare to other countries in terms of its readiness to measure or manage fiscal exposures?**

Mr. Gómez responded that GAO focuses on the federal government's readiness and preparedness. In relation to Mr. Thompson's earlier point about the need for a U.S. climate information system, GAO has studied other countries' climate information systems. This includes how the countries organize them, what kind of information they provide, and the organization of roles and responsibilities. The GAO report has been helpful to understand what is needed in the United States.<sup>12</sup>

Mr. Thompson noted that other, mostly European, countries have systems in place to make climate information more accessible to various types of users and institutions. However, in the United States, many different agencies produce great information but rely on users to sift through and make sense of it. For this reason, GAO has recommended that the U.S. put an institutional structure in place to make the information that it already collects more useful to people.<sup>13</sup>

**How much and what type of information is actually utilized by the public?**

Mr. Smith replied that there is not a unified source of federal climate information. FEMA has a [resilience mapping index](#).

While NOAA has a [climate resilience toolkit](#), that is another lens looking at risk and vulnerability and how to mitigate that risk to plan for future development.

[NOAA's National Centers for Environmental Information \(NCEI\)](#) is a key source for federal climate information.

Mr. Gómez noted that what GAO found is that bigger cities with bigger water systems, for example, have access to people who understand the issues and can get information, such as climatologists. Sometimes these experts are even on staff.

GAO found that smaller communities with smaller systems do not necessarily have that technical ability to understand the information or access it. As a result, there is still a need for information that is available but understandable for people at all levels to use.

Mr. Thompson explained that there are many different types of information for users. For example, researching how to build forward-looking climate risk into designing a building requires different information than what would be useful for federal financial reporting.

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<sup>12</sup> GAO-16-37.

<sup>13</sup> GAO-16-37.

**What type of information exists about mitigation costs and how much of the risk could be mitigated by incurring costs to reduce some of the future risks?**

Mr. Thompson responded that GAO does not know much about how resilience investments made ahead of time will pay off in the long term. However, FEMA did a report with the National Institute of Building Sciences called Natural Hazard Mitigation Saves: 2019 Report. It discusses how \$1 investments in resilience can save from \$3 to \$11, depending on the disaster. It is based on historical comparisons of how disasters affect different parts of the United States.

Mr. Smith noted that, as the financial markets take more and more sustainable approaches to building or rebuilding, the public and private sectors will have more incentives to think about the data and how these projects are structured and planned. That is another trend that may help accelerate better planning and building.

Members expressed their thanks for a very informative presentation.

- **Climate Impact and Risk Reporting**

Ms. Gilliam proposed a climate impact and risk reporting technical plan from [tab G](#) for the Board to consider. While this project was not on the three-year plan, there was an extensive history of staff outreach and interest concerning climate impact on federal property, plant, and equipment (PP&E) that supported this request.

Staff outreach began in 2018 when a NASA scientist reached out to Mr. Savini to give a presentation on impaired assets because NASA was concerned about the facilities on coastlines and the climate impact of rising seawaters. In addition, the Federal Adaption and Resilience Group, a working group within the USGCRP reached out to staff to learn if there are any accounting standards for adaption and resilience. Although FASAB does have standards that address PP&E damaged from an extreme weather event, there are no standards (by FASAB or other accounting standard-setters) related to adaption activity that ensures resilience of federal PP&E against future climate-related events. The exception is management's discussion and analysis (MD&A). Agencies could include information about adaption and resilience in their forward-looking discussion in MD&A.

As a result, staff developed a toolbox of available standards for a presentation titled *Federal Accounting for Climate-Related Events*. Staff presents the toolbox using DoD's Camp Lejeune as a scenario. Camp Lejeune experienced an estimated \$3.6 billion of destruction and damages to its PP&E. Ms. Gilliam directed members to appendix A in [tab G](#) to view the slide deck.

Since 2018, staff has continued to present this toolbox to many different organizations. Mr. Savini presents it as part of his all day FASAB training to agencies. Ms. Gilliam presents it as a two-hour training. Every time staff presents the *Federal Accounting for Climate-Related Events* toolbox, staff receives more requests for the presentation.

In addition, the U.S. Commodity Futures Trading Commission (CFTC) issued a report titled *Managing Climate Risk in the U.S. Financial System*, with the following [7B] recommendation related to FASAB:

United States should direct the Federal Accounting Standards Advisory Board to study and pilot the development of climate-related federal accounting standards, disclosure procedures and practices for U.S. Government departments, agencies, and administrative units.

As a result of the response to staff's outreach activity and the CFTC report, staff recommended the following three research topics to prepare a project scope for the Board to consider:

- Additional guidance for recognition, measurement, and disclosure criteria that specifically addresses impacts to the reporting entity's PP&E after an extreme weather event occurs.
- Additional guidance for recognition, measurement, and disclosure criteria that specifically addresses adaption and resilience activities needed to protect the condition of the reporting entity's PP&E prior to future extreme weather events.
- Additional guidance to determine if adaption and resilience necessary to maintain the reporting entity's PP&E's condition is a contingent liability or deferred maintenance and repairs.

Staff presented the following questions to members:

**Question 1 – Do members agree with pursuing a project on climate impact and risk reporting in accordance with the proposed technical plan?**

**Question 2 – Do members agree with staff's next steps to research if existing standards support accounting and reporting for climate impact and risk reporting and to develop recommendations for Board consideration?**

**Question 3 – Do members wish to share any other observations or views regarding the project or technical plan?**

Members decided to address all three questions at once because they all generally ask the Board's thoughts on staff moving forward with researching the topic.

Members deliberated and came to the following agreements:

- This is an important issue but in a pre-project research phase to identify any gaps between current guidance on destroyed assets and impairment/deferred maintenance and current agency practices.

- Staff should present a clear scope and objectives through outputs and outcomes.
  - Understanding the event that triggers accounting for adaptation and resilience is necessary; however, if the event relates to policy it could be difficult to develop related accounting standards.
  - Forward-looking risk exposure discussed in the MD&A is not limited to climate.
  - The Board will determine in the future whether this is a standalone project or included in another project, such as MD&A or reexamination of existing standards.
- **Land**

The objective of the session was to approve via ballot SFFAS 59, titled *Accounting and Reporting of Government Land*. Mr. Savini reminded members that ballots were due by the end of the day. Staff briefly mentioned minor changes proposed by one of the dissenters and concluded by noting that six affirmative ballots (sufficient for issuance) were received along with one ballot dissenting, thus leaving two ballots outstanding. Mr. Scott then asked the members if they had any questions. There were none, so Mr. Scott concluded the session.

Subsequent to the meeting, Mr. Savini received two additional ballots, bringing the count to seven affirmative ballots and two dissenting ballots.

## **Adjournment**

The Board meeting adjourned at 12:00 p.m.

# Attachment A

# FASAB Education Session: Fiscal Exposure & Climate Risk for the Federal Government

Thursday December 16, 2020  
9:30 – 11:00am  
TAB F

## AGENDA

### 9:30 – 10:30am

- Robin Gilliam – Introduction/ Educational Goal
- **NOAA: Adam Smith** – U.S. Billion-dollar Weather and Climate Disasters
- **GAO: Alfredo Gómez** – Limiting the Federal Government's Fiscal Exposure By Better Managing Climate Change Risks
- **GAO: Joe Thompson** – GAO's Climate Change Adaptation Work
- **GSA: Ann Kosmal** – Adaption & Resilience Work at GSA

### 10:30 – 11:00am

- Member questions

# ADAM SMITH

Applied Climatologist  
Center for Weather and Climate  
National Centers for Environmental Information  
National Oceanic and Atmospheric Administration



**U.S. Billion-dollar Weather and Climate Disasters (1980-2020)**  
Better understanding U.S. disaster costs over space and time

**Adam B. Smith, Applied Climatologist**

**NOAA National Centers for Environmental Information (NCEI)  
Center for Weather and Climate**



November 13, 2020

U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

# U.S. Billion-dollar Weather and Climate Disasters

## Outline:

- Context for Measuring Disaster Impact
- Data Sources / What we are Measuring
- 2020 U.S. Disasters in Review...
- Disaster Cost Comparison and New Tools



November 13, 2020

U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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## NOAA's National Centers for Environmental Information (NCEI) – Center for Weather and Climate

- Statutory mission to describe the climate of the United States and act as the **"Nation's Scorekeeper"** regarding the trends and anomalies of weather and climate.



- As part of this responsibility we also analyze extreme weather and climate events in the U.S. that have **great economic and societal impacts** known as **"U.S. Billion-dollar Weather & Climate Disasters"**
- **Such extreme events contribute the majority (>80%) of the damage from all recorded U.S. weather and climate events (NCEI; Munich Re).**
  - 1980-2000 ... (~75% of full distribution)
  - 1980-2010 ... (~80% of full distribution)
  - 1980-2020 ... (~85% of full distribution) → **\$1.825 trillion** of \$2.150 trillion in US costs

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# U.S. Billion-dollar Weather and Climate Disasters

## Outline:

- Context for Measuring Disaster Impact
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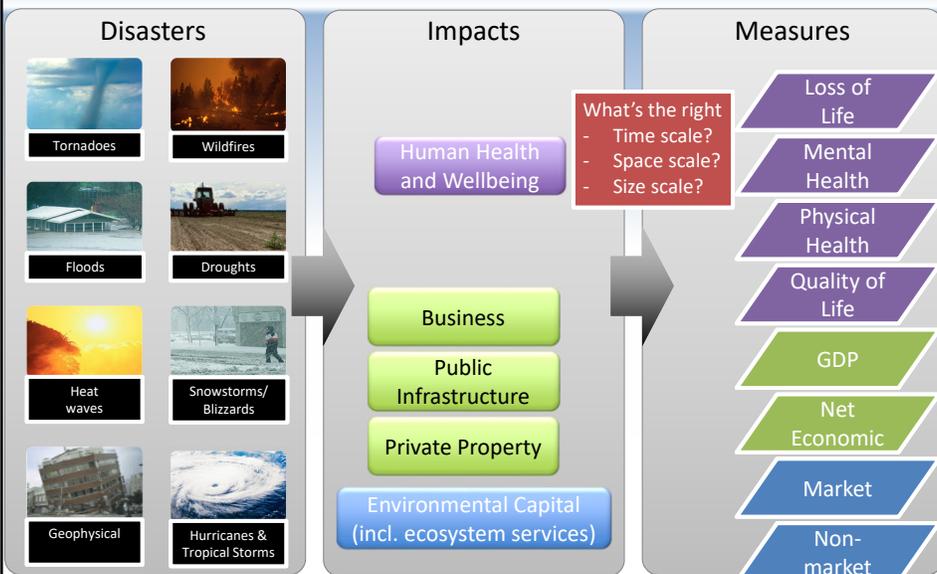


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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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## Different Ways to Measure Disaster Impact



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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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## To capture losses requires a broad array of **public** and **private** data

	Hurricanes / Tropical Storms	Severe Local Storms	Winter Storms	Crop Freeze	Wildfire	Drought / Heat Wave	Inland / Riverine Flooding
Insurance Service Office - Property Claim Services	x	x	x		x		x
FEMA - Presidential Disaster Declarations	x	x	x	x	x		x
FEMA - National Flood Insurance Program	x						x
USDA - Risk Management Agency	x	x	x	x	x	x	x
National Interagency Fire Center					x		
Energy Information Administration	x	x	x		x	x	
US Army Corps of Engineers							x
State Agencies	x	x	x	x	x	x	x

Account for total, direct losses (i.e., **insured** and **uninsured**) for assets including:

- **physical damage** to residential, commercial, and government buildings
- **material assets** (content) within a building
- **time element losses** (i.e., time costs for businesses; hotel costs for loss of living quarters)
- **vehicles, boats, offshore energy platforms**
- **public infrastructure** (i.e., roads, bridges, buildings)
- **agricultural assets** (i.e., crops, livestock, timber)

We do not account for: natural capital losses; healthcare-related costs; all downstream (indirect) costs



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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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## U.S. Billion-dollar Weather and Climate Disasters

### Outline:

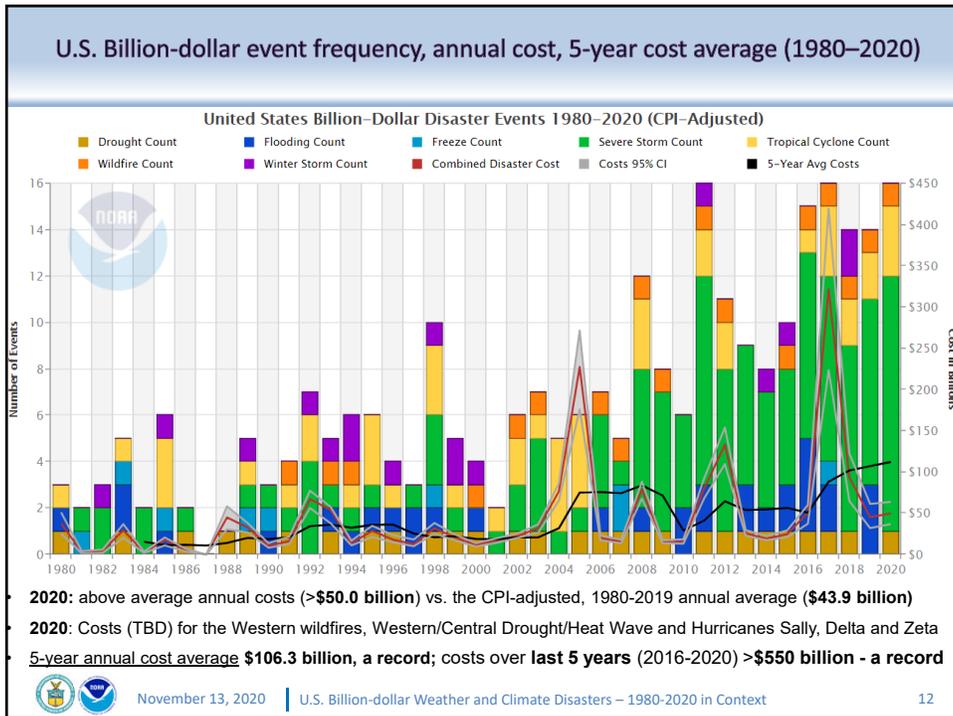
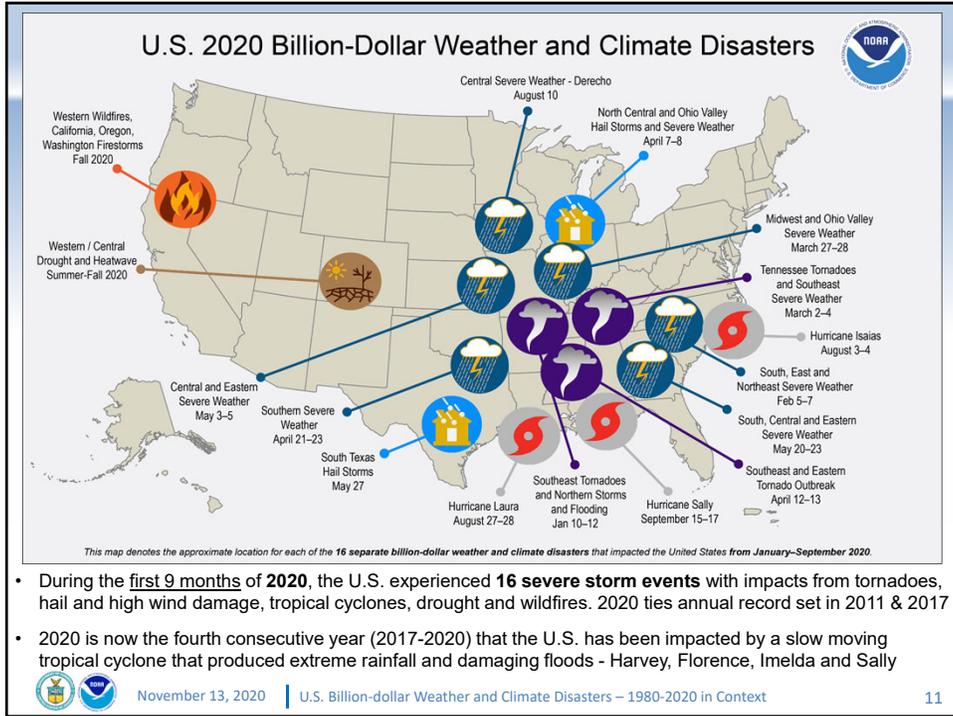
- Context for Measuring Disaster Impact
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- **2020 U.S. Disasters in Review...**
- Disaster Cost Comparison and New Tools



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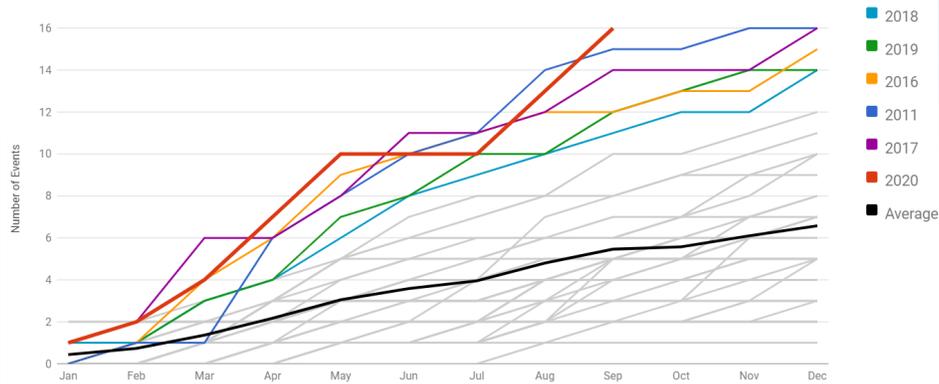
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## Cumulative U.S. billion-dollar disaster frequency (year-to-date) for years 1980-2020

### 1980-2020 Year-to-Date United States Billion-Dollar Disaster Event Frequency (CPI-Adjusted)

Event statistics are added according to the date on which they ended.



Statistics valid as of October 7, 2020.

- Red line shows Jan-Sept 2020 number of billion-dollar disaster events (16) through Sept 30.
- 1980 – 2019 annual average: 6.5 events (CPI-adjusted). 2015–2019 annual average: 13.8 events (CPI-adjusted)



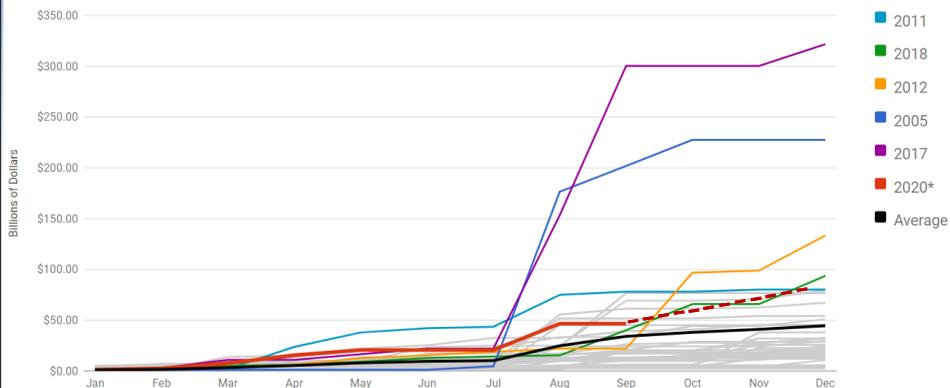
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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

## Cumulative U.S. billion-dollar disaster cost (year-to-date) for years 1980-2020

### 1980-2020 Year-to-Date United States Billion-Dollar Disaster Event Cost (CPI-Adjusted)

Event statistics are added according to the date on which they ended.



Statistics valid as of October 7, 2020.

- The 2020 costs to date are **>\$50 billion in damages**. 2020 is an above-average cost year.
- Hyperactive Atlantic hurricane & western wildfire season ongoing.
- **Most B\$D US tropical cyclones on record (5), historic Western wildfires, Midwest derecho, etc.**



November 13, 2020

U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

# U.S. Billion-dollar Weather and Climate Disasters

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November 13, 2020

U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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**What we find:** From Jan1980-Sept2020, the U.S. has experienced 279 distinct billion-dollar weather & climate events - each causing at least \$1 billion in direct losses

- **Total, direct losses** from these 279 events exceeds **\$1.825 trillion** (CPI-adjusted, 2020)

DISASTER TYPE	EVENTS	PERCENT FREQUENCY	TOTAL COSTS	PERCENT OF TOTAL COSTS	COST/EVENT	DEATHS
Drought	28	10.0%	\$254.3B <sup>†</sup> CI	13.9% <sup>‡</sup>	\$9.4B <sup>‡</sup>	3,865 <sup>†</sup>
Flooding	33	11.8%	\$151.0B CI	8.3%	\$4.6B	617
Freeze	9	3.2%	\$30.7B CI	1.7%	\$3.4B	162
Severe Storm	126	45.2%	\$280.3B CI	15.3%	\$2.2B	1,761
Tropical Cyclone	48	17.2%	\$974.9B <sup>†</sup> CI	53.4% <sup>‡</sup>	\$20.7B <sup>‡</sup>	6,570
Wildfire	18	6.5%	\$85.7B <sup>†</sup> CI	4.7% <sup>‡</sup>	\$5.0B <sup>‡</sup>	388
Winter Storm	17	6.1%	\$50.0B CI	2.7%	\$2.9B	1,048
All Disasters	279	100.0	\$1,826.9B <sup>†</sup> CI	100.0% <sup>‡</sup>	\$6.6B <sup>‡</sup>	14,411



November 13, 2020

U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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## Decadal comparison of U.S. Billion-dollar disaster stats

	Number of billion-dollar disasters (average per year)	Associated Costs (average per year)	Associated Fatalities (average per year)
1980s (1980-89)	28 (2.8)	\$127.7B (\$12.8B)	2,808 (281)
1990s (1990-99)	52 (5.2)	\$269.6B (\$27.0B)	2,173 (217)
2000s (2000-09)	59 (5.9)	\$510.3B (\$51.0B)	3,051 (305)
2010s (2010-19)	119 (11.9)	\$802.0B (\$80.2B)	5,217 (522)
Last 5 years (2015-19)	69 (13.8)	\$531.7B (\$106.3B)	3,862 (772)
Last 3 years (2017-19)	44 (14.7)	\$456.7B (\$152.2B)	3,569 (1,190)

The number and cost of disasters are increasing over time due to a combination of increased [exposure](#) (i.e., values at risk of possible loss), [vulnerability](#) (i.e., where we build; how we build) and that climate change is increasing the frequency of some types of extremes that lead to billion-dollar disasters ([NCA 2018, Chapter 2](#))



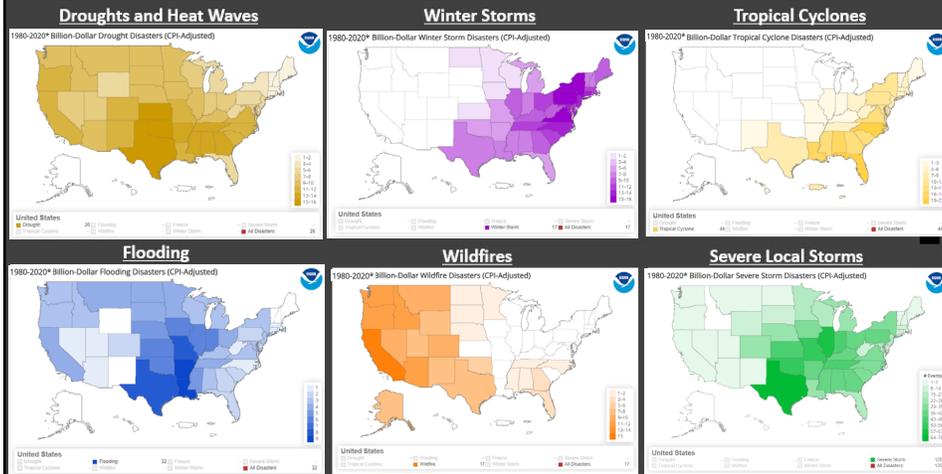
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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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The Nation is weather and climate conscious...for good reason, as each geographic region faces unique hazards

### Billion-dollar weather and climate disasters frequency mapping: Jan1980-Sept2020



\*279 weather and climate disasters reached or exceeded \$1 billion during this period (CPI-adjusted); cost > \$1.825 trillion in damages

Please note that the map reflects a summation of billion-dollar events for each state affected (i.e., it does not mean that each state shown suffered at least \$1 billion in losses for each event).



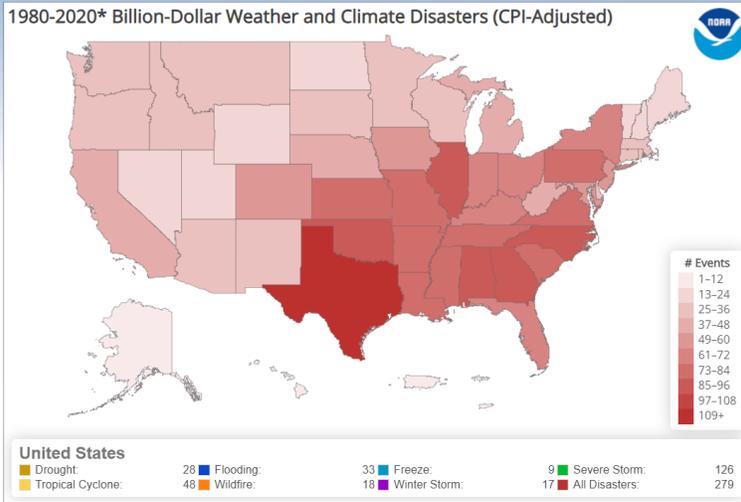
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From 1980–2020, the U.S. **South, Central** and **Southeast** regions experienced a higher frequency of billion-dollar disaster events than any other region

**Cumulative Event Frequency (1980-2020) for each state (combined perils)**



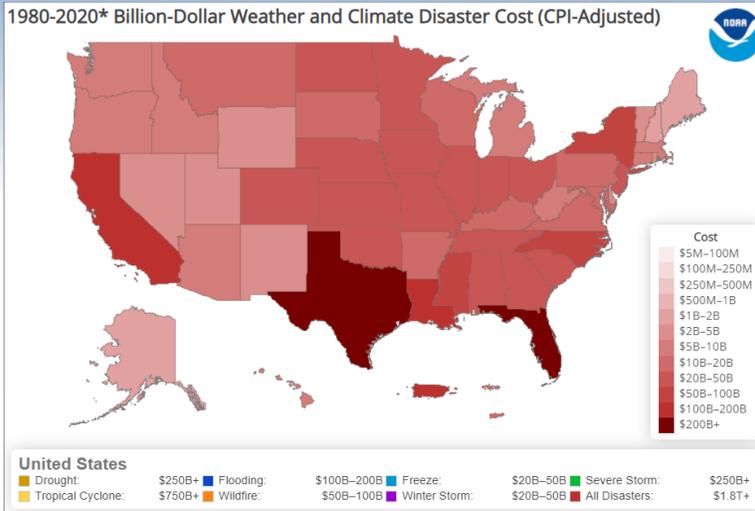
→ Reflects the **frequency, diversity, & severity** of weather & climate events impacting the regions



November 13, 2020 | U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

From 1980–2020, the U.S. **South, Central** and **Southeast** regions experienced a higher cost from billion-dollar disaster events. CA, NY, NJ, PR and V.I. as well.

**Cumulative Event Cost (1980-2020) for each state (combined perils)**

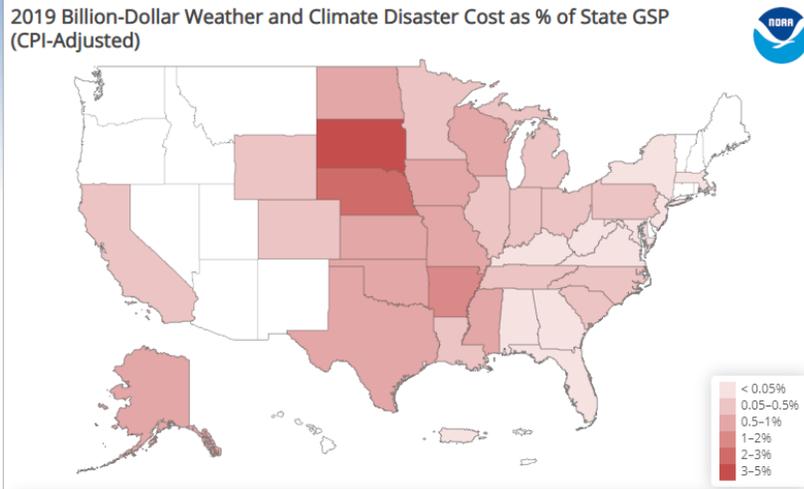


→ Reflects the **severity & vulnerability** of weather & climate events impacting different regions



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Comparing the 2019 disaster costs for each state as a % of that state's 2019 GSP (economic output)... clear impact from billion-dollar disaster events



→ Reflects the **severity & vulnerability** of weather & climate events vs. scale of economy



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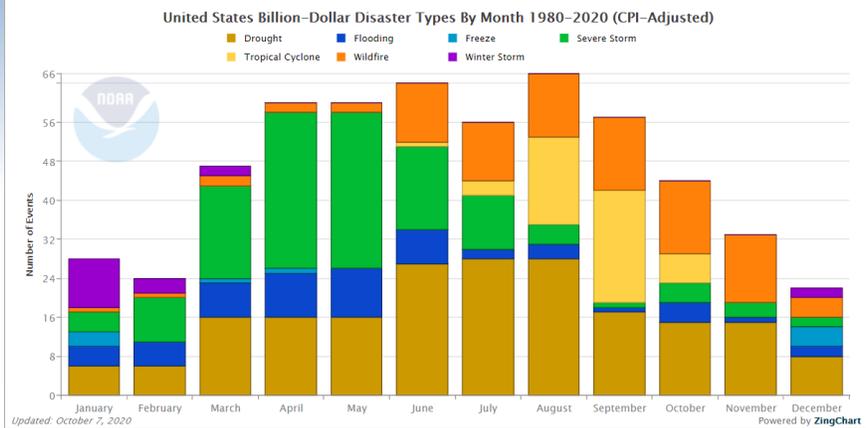
U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

Overview Mapping Time Series Climatology Summary Stats Events FAQ References

United States

CPI-Adjusted Unadjusted

The charts below capture the total duration of each billion-dollar disaster. Therefore, events that span multiple months are counted in each of the months in which they occur.



- ❖ A chart to visualize the 40+ year climatological frequency of extreme, damaging events across the Nation.
- ❖ A way for decision-makers to utilize historical data to understand which types of large events typically occur at what times of year, by region.

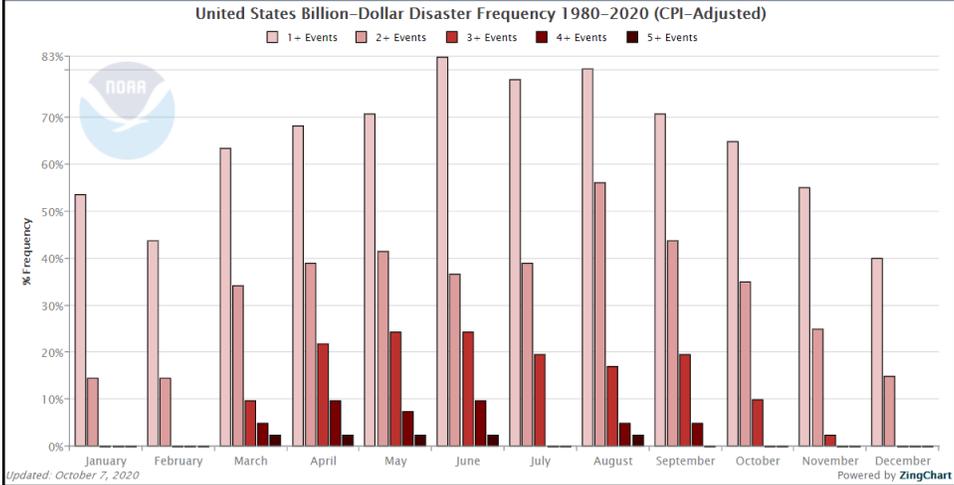


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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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**Raises awareness of the potential for multiple, cascading hazards, which historically can occur from season to season.**



As noted in the [Climate Science Special Report](#) of the *Fourth National Climate Assessment*, "The physical and socioeconomic impacts of compound extreme events (such as simultaneous heat and drought, wildfires associated with hot and dry conditions, or flooding associated with high precipitation on top of snow or waterlogged ground) can be greater than the sum of the parts."



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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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**For interactive data, charts, mapping and disaster summaries, see:**

[www.ncdc.noaa.gov/billions](http://www.ncdc.noaa.gov/billions)

See new article: **2010-2019: A landmark decade of U.S. billion-dollar weather and climate disasters**  
[www.climate.gov/news-features/blogs/beyond-data/2010-2019-landmark-decade-us-billion-dollar-weather-and-climate](http://www.climate.gov/news-features/blogs/beyond-data/2010-2019-landmark-decade-us-billion-dollar-weather-and-climate)



[Adam.Smith@noaa.gov](mailto:Adam.Smith@noaa.gov)

**For more detail on data, methodology and uncertainty, see:**

- Smith A.B. and J.M. Matthews, 2015: Quantifying Uncertainty and Variable Sensitivity within the U.S. Billion-dollar Weather and Climate Disaster Cost Estimates. *Natural Hazards*, 77, 1829-1851  
<https://www.ncdc.noaa.gov/billions/docs/smith-and-matthews-2015.pdf>

- Smith, A.B. and R.W. Katz, 2013: U.S. Billion-dollar weather and climate disasters: Data sources, trends, accuracy and biases. *Natural Hazards*, 67, 387–410  
<https://www.ncdc.noaa.gov/billions/docs/smith-and-katz-2013.pdf>



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U.S. Billion-dollar Weather and Climate Disasters – 1980-2020 in Context

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# ALFREDO GOMEZ

Director  
Natural Resources and Environment Team  
U.S. Government Accountability Office



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## Limiting the Federal Government's Fiscal Exposure By Better Managing Climate Change Risks

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December 16, 2020  
Federal Accounting Standards Advisory Board  
Climate Education Session

Alfredo Gomez, Director  
Natural Resources and Environment Team  
U.S. Government Accountability Office

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For more information, contact Alfredo at [gomezj@gao.gov](mailto:gomezj@gao.gov)

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## About GAO

- GAO is an independent, nonpartisan agency that works for the U.S. Congress.
- Often called the "congressional watchdog," GAO investigates how the federal government spends taxpayer dollars.
- GAO's work is primarily done at the request of congressional committees or is mandated by public laws or committee reports.



## GAO's Natural Resources and Environment Team

- The Natural Resources and Environment (NRE) team is responsible for GAO's assessments of federal efforts to:
  - manage our nation's land and water resources,
  - protect the environment,
  - ensure food safety,
  - manage agricultural programs,
  - ensure a reliable and environmentally sound energy supply,
  - limit federal fiscal exposure to climate change, and
  - address US and international nuclear security and cleanup.

## Added to High Risk List in 2013

### Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks

To reduce its fiscal exposure, the federal government needs a cohesive strategic approach with strong leadership and the authority to manage risks across the entire range of related federal activities.

**Why Area Is High Risk**

Numerous studies have concluded that climate change poses risks to many environmental and economic systems and creates a significant fiscal risk to the federal government. For example, according to the November 2012

**Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks**



The rising number of natural disasters and increasing reliance on federal assistance is a key source of federal fiscal exposure. Since 2005, federal funding for disaster assistance is approaching

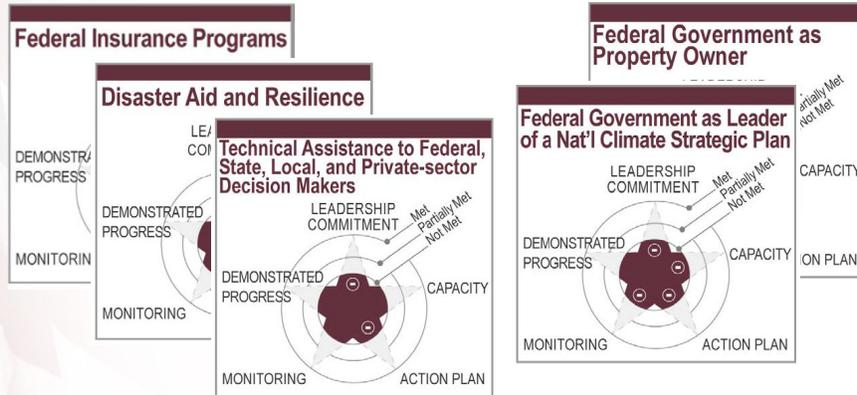
## Limiting the Federal Government's Fiscal Exposure By Better Managing Climate Change Risks

- Leader of a strategic plan
- Owner and operator of infrastructure
- Insurer of property and crops
- Provider of technical assistance to decision makers
- Provider of disaster assistance



Source: GAO analysis. | GAO-19-157SP

**GAO's High Risk Series: Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks**



Next Update: February 2021

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# JOE THOMPSON

Assistant Director

Natural Resources and  
Environment Team  
U.S. Government Accountability Office



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## GAO's Climate Change Adaptation Work

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December 16, 2020

Federal Accounting Standards Advisory Board  
Climate Education Session

Joe Thompson, Assistant Director  
Natural Resources and Environment Team  
U.S. Government Accountability Office

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For more information, contact Joe at [thompsonjd@gao.gov](mailto:thompsonjd@gao.gov)

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## 10 reports released in the past year and many more underway

### Topics Include

- Federal infrastructure, including DOD
- Natural Disasters
- Economic Costs & Opportunities
- Agriculture
- Domestic & Global migration
- Tribal Issues
- Nuclear Waste
- Superfund, Chemical Facilities, & RCRA

<p><b>GAO</b> United States Government Accountability Office Report to Congressional Requesters</p> <hr/> <p>June 2020</p> <p><b>CLIMATE RESILIENCE</b></p> <p>Actions Needed to Ensure DOD Considers Climate Risks to Contractors as Part of Acquisition, Supply, and Risk Assessment</p> <hr/> <p>GAO-20-011</p>	<p><b>GAO</b> United States Government Accountability Office Report to Congressional Requesters</p> <hr/> <p>July 2020</p> <p><b>SOCIAL COST OF CARBON</b></p> <p>Identifying a Federal Entity to Address the National Academies' Recommendations Could Strengthen Regulatory Analysis</p>
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## Two Types of Climate Adaptation Reports

### Mainstreaming

(Building Forward-Looking Climate Risk into Existing Programs)

- Superfund sites
- Design Standards and Building Codes
- Water systems

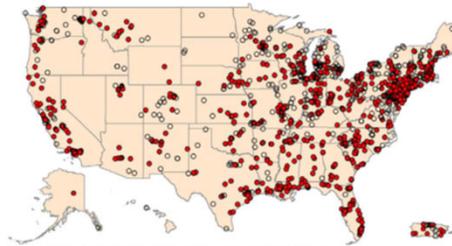
### New Institutions

- National Climate Information System
- Identify (and fund) high-priority adaptation projects
- Climate migration pilot program

## Mainstreaming Example 1: EPA’s Superfund Program

**We found:**

- About 60% of Superfund sites overseen by EPA are in areas that may be impacted by wildfires and different types of flooding—natural hazards that may be exacerbated by climate change.



**Number of National Priorities List (NPL) sites in potentially impacted areas**  
 ● Potentially impacted sites (945) ○ No impact identified (626)  
Sources: GAO analysis of Environmental Protection Agency, Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, and U.S. Forest Service data, MapInfo (map). | GAO-20-73  
 Superfund Sites Located in Areas that May Be Impacted by Flooding, Storm Surge, Wildfires, or Sea Level Rise

**We recommended:**

- EPA provide direction on integrating climate information into site-level decision making to ensure long-term protection of human health and the environment.

Superfund: EPA Should Take Additional Actions to Manage Risks from Climate Change (GAO-20-73)

## Mainstreaming Example 2: Climate Information for Design Standards and Building Codes

- *Improved Federal Coordination Could Facilitate Use of Forward-Looking Climate Information in Design Standards, Building Codes, and Certifications (GAO-17-3)*
- *Design standards and building codes generally use historical climate observations.*

*“Continuing to build with current standards and codes could cost the federal government billions of dollars in repairs, flood insurance, and disaster relief.”*



Source: GAO. | www.gao.gov

## Design Standards and Building Codes—Data & Information Used

- Reviewed reports and documents from the 17 standards-developing organizations and experts.
- Standards-developing organizations:
  - develop design standards, building codes, and certifications
  - Covered four infrastructure sectors—energy, government facilities, transportation, and water and wastewater systems.
- Challenges: Standards setting organizations face institutional and technical challenges to using the best available forward-looking climate information.
- Recommendation: NIST convene federal agencies to provide the best available forward-looking climate information to standards-developing organizations

## Mainstreaming Example 3 : Water Infrastructure



Relocation of Iowa City's North Wastewater Treatment Facility Because of 2008 Flooding

**We found:**

- Utilities need additional technical assistance on an ongoing basis to manage climate risks
- Agencies don't consistently consider climate resilience when funding water infrastructure projects

**We recommended:**

- Congress should consider requiring that climate resilience be considered in planning for federally funded water infrastructure projects
- EPA identify technical assistance providers and engage them in a network to help water utilities incorporate climate resilience into infrastructure projects

**Water Infrastructure: Technical Assistance and Climate Resilience Planning Could Help Utilities Prepare for Potential Climate Change Impacts (GAO-20-24)**

## New Institutions Example 1: National Climate Information System

November 2015

### CLIMATE INFORMATION

A National System Could Help Federal, State, Local, and Private Sector Decision Makers Use Climate Information

GAO-16-37

- User needs not met in many sectors/regions/scales/purposes
- Many federal efforts underway, but fragmented across agencies that use information in different ways to meet their missions.
- Federal, state, local and other decision makers may be unaware that these data exist or unable to use what is available.
- Need to develop best available authoritative climate information for decision-making, and providing technical assistance to help decision makers use it.

## National Climate Information System—Data & Information

- Identified and reviewed over 60 relevant reports and studies from 2000 to 2014 including peer reviewed journals, trade and industry journals, government reports, and publications from research organizations.
- Interviewed nonprobability sample of over 40 U.S. stakeholders, including current and former federal officials, local decision makers, researchers, and consultants.
- Visited nonprobability sample of three countries with systems to coordinate the development, archiving, and use of climate information by decision makers—Germany, the Netherlands, and the United Kingdom.
- Challenges: Understanding the governing structures of the information systems in these countries and how we can apply the lessons to the US governing structures.

## Key Findings

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- Based on our review of climate information systems in other countries and interviews with experts, we found that a national climate information system could be implemented that had roles for federal and nonfederal partners.
- Key federal role would be to provide authoritative data and guidelines for how to use the data.
- Non-federal actors would be better positioned to provide on-the-ground technical assistance.

## Climate Information Recommendations

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We recommended that the Executive Office of the President should

1. designate a federal agency to develop and periodically update a set of authoritative climate change observations and projections for use in federal decision making, which state, local, and private sector decision makers could also access to obtain the best available climate information, and
2. designate a federal agency to create a national climate information system with defined roles for federal agencies and nonfederal entities

## New Institutions Example 2: Prioritizing Resilience Projects

**We found:**

- Very little ad hoc investment in climate resilience
- No federal action to improve climate risk management
- 6 key steps provide an opportunity for the federal government to strategically identify and prioritize climate resilience projects



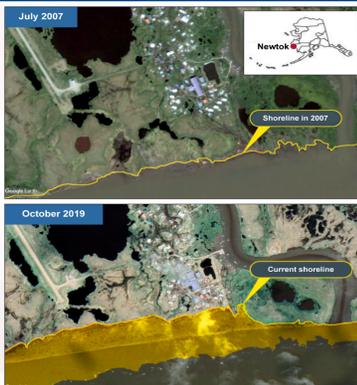
Infrastructure projects, like this system of levees and other barriers in New Orleans, could reduce risk from coastal storms and flooding—events that could be exacerbated by climate change.

**We recommended:**

- Congress consider establishing a federal entity to identify and prioritize these projects.

Climate Resilience: A Strategic Investment Approach for High-Priority Projects Could Help Target Federal Resources (GAO-20-127)

## New Institutions Example 3: Domestic Climate Migration



Shoreline erosion at Newtok, AK, July 2007 to October 2019

**Methodology:**

- Literature review.
- Interviews with experts and federal, state and local stakeholders.
- Case studies: Newtok, AK; Isle de Jean Charles, LA; Smith Island, MD; Santa Rosa, CA.

**We found:**

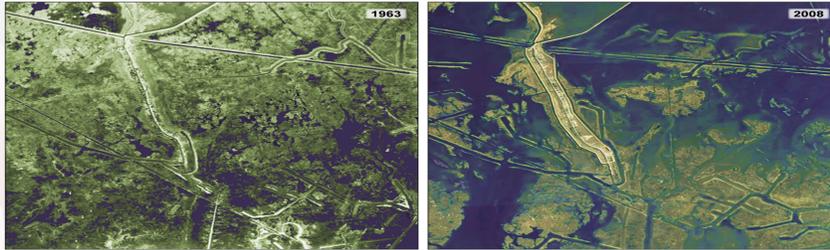
- Federal programs provide limited support to climate migration efforts.
- No federal agency has the authority to lead federal assistance for relocating communities.
- Lack of federal coordination has contributed to delays in Newtok and Isle de Jean Charles.

Climate Change: A Climate Migration Pilot Program Could Enhance the Nation's Resilience and Reduce Federal Fiscal Exposure (GAO-20-488)

## Domestic Climate Migration

**We recommended:**

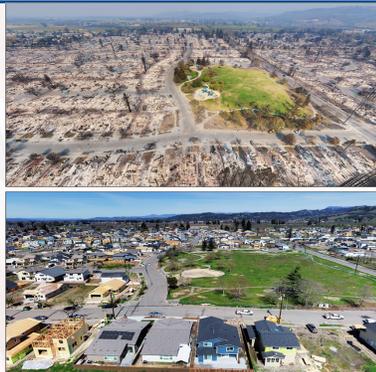
Congress should consider establishing a pilot program with clear federal leadership to identify and provide assistance to communities that express affirmative interest in relocation as a resilience strategy.



Source: U.S. Geological Society | GAO-20-488  
Isle de Jean Charles Land Loss, 1963 to 2008

**Climate Change: A Climate Migration Pilot Program Could Enhance the Nation's Resilience and Reduce Federal Fiscal Exposure (GAO-20-488)**

## Domestic Climate Migration



Source: © Coverage Santa Rosa Times | GAO-20-488  
Coffey Park Neighborhood, Santa Rosa, after the October 2017  
Wildfire and in April 2019

**Climate Change: A Climate Migration Pilot Program Could Enhance the Nation's Resilience and Reduce Federal Fiscal Exposure (GAO-20-488)**

**Factors to consider when creating a pilot program:**

- Promote community led planning.
- Address limited community capacity and access to funding.
- Promote coordination across all relevant levels of government.
- Emphasize public service delivery in receiving and migrating communities.

## Disaster Resilience Framework

### Disaster Resilience Framework

Principles for Analyzing Federal Efforts to Facilitate and Promote Resilience to Natural Disasters



GAO-20-100SP

Disaster Resilience Framework: Principles for Analyzing Federal Efforts to Facilitate and Promote Resilience to Natural Disasters (GAO-20-100SP)

- Framework organized around 3 principles—information, integration, and incentives—and a series of questions.
- Framework principles can help:
  - Officials that manage federal agencies/programs consider actions they might take to increase resilience to natural hazards.
  - Identify gaps in existing federal efforts or analyze any type of existing federal effort.

## The Three I's

### Information:

- Accessing information that is authoritative and understandable can help decision makers to identify current and future risk and the impact of risk-reduction strategies.

### Integration:

- Integrated analysis and planning can help decision makers take coherent and coordinated resilience actions.

### Incentives:

- Incentives can help to make long-term, forward-looking risk-reduction investments more viable and attractive among competing priorities.



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ANN KOSMAL

Architect

Office of Federal High-Performance Buildings  
U.S. General Services Administration

## Site/Facility CPL Scope

### Thermal

- Cool Inside
- Cool Outside
- Extremes
- Passive Survivability

### Construction

- Durability
- Below grade
- Above grade
- Enclosure detailing

### Water

- Conserve
- Drainage
- Flooding

Credit: Innovate UK, Bill Gething RIBA, UWE Bristol

**Thank you!**



