



Environmental Data & Governance Initiative Website Monitoring Report

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Website Actions by Federal Environmental Agencies During the Government Shutdown, Including Broad Restriction of Access on NOAA Websites

February 25, 2019

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Overview

Different federal agencies managed their web resources differently during the recent 35-day partial government shutdown. Many agencies, such as the Environmental Protection Agency (EPA) placed a banner at the top of webpages to inform the public that websites would not be updated, and did not update public datasets. Another agency, the National Oceanic and Atmospheric Administration (NOAA), blocked access to many web resources by redirecting URLs to a simple government shutdown notice. The lack of maintenance of websites during government shutdowns has historical precedent, such as during the 16-day shutdown in 2013, but we cannot quantify its extent. In the most recent government shutdown, nearly one-third of the NOAA webpages that EDGI monitors (1,045 out of 3,275) redirected to the shutdown notice, including informational pages and data portals for archival climate, atmospheric, oceanic, and environmental data. However, essential real-time operational data, such as that produced by the National Centers for Environmental Prediction (NCEP), remained available and were regularly updated during the shutdown.

The partial government shutdown offered a window into key vulnerabilities of our public federal data. Across many agencies, important datasets were not updated, such as EPA's enforcement and compliance database ECHO, making public use of the data potentially inaccurate and creating a backlog of updates and maintenance for agencies when funding was restored. Additionally, many datasets were not accessible through primary data portals, such as the central federal repository Data.gov, even though many individual datasets (but not cross-agency collations of datasets) were available through other agency websites and could have been accessed if a user had been directed where to search. Some more specific data portals, like NOAA's National Climatic Data Center (NCDC) data access website, were also blocked. In some cases the data may have been technically available, but only would have been accessible with prior knowledge of specific dataset URLs and with prior knowledge of the model functions and data outputs since supporting materials were restricted. Important educational information was also rendered unavailable during the partial government shutdown, such as the NOAA-affiliate climate.gov website. It is unclear why NOAA, or any agency, would choose to restrict access to these informational websites and data portals, rather than simply inform the public that the websites may not be up to date during the shutdown. Federal agencies have built a web infrastructure in order to deliver data and display important environmental information. However, a lack of infrastructural maintenance, such as what transpired during this past government shutdown or could occur with curtailed agency budgets, has demonstrated how vulnerable that infrastructure can be.

In this report we document ways in which different federal agencies managed their web resources during the most recent government shutdown, with particular focus on NOAA. At

the end of the report we discuss implications and recommendations for data access and management during future funding lapses.

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Federal Agency Website Responses to Partial Government Shutdown

Throughout the 35-day partial government shutdown December 22, 2018 – January 25, 2019, federal agencies whose budgets were controlled by the latest round of Congressional appropriations only had working staff available for what had been deemed critical functions, usually to protect life and property. Updates to most federal websites and databases were not supported as critical functions during the shutdown. However, it is important to note that a few websites, such as for the National Weather Service and its National Centers for Environmental Prediction, continued to publish content during the shutdown. For websites that did not serve a critical function to protect life and property in real-time, agencies responded to the lapse in Congressional appropriations in multiple ways, ranging from no visible website changes, to alerting the public with banners indicating that pages and databases would not be updated, to completely blocking access to data and informational resources. In addition, several websites became inadvertently unavailable due to security (SSL) certificates that were left to lapse.

Here, we walk through each of the different kinds of ways federal environmental agencies managed their websites during the recent shutdown, with examples from the Environmental Protection Agency (EPA), the Department of the Interior (DOI) and its agencies, the National Aeronautics and Space Administration (NASA), and the data.gov website managed by the General Services Administration (GSA). We then illustrate in particular the case of the National Oceanic and Atmospheric Administration (NOAA) and some of its laboratories, centers, and services.

Table 1: Federal agency website management responses during the government shutdown described in this report.

Agency	No Shutdown Indication; Content Accessible	Shutdown Banner; Content Accessible	Shutdown Banner; Content Accessible; Databases Not Updated	Shutdown Redirect; Content Inaccessible
EPA	X	X	X	
DOI	X	X		
NASA	X			
GSA (Data.gov)				X
NOAA	X	X	X	X

Data and Information Available but Not Updated

Several agencies alerted the public—with banners and pop-up windows—that web resources would not be updated until Congressional appropriations were resolved. For example, the Environmental Protection Agency (EPA) posted a banner at the top of its homepage (see [Page 1](#)) and most of its other webpages that stated:

“Due to a lapse in appropriations, EPA websites will not be regularly updated. In the event of an environmental emergency imminently threatening the safety of human life or where necessary to protect certain property, the EPA website will be updated with appropriate information. Please note that all information on the EPA website may not be up to date, and transactions and inquiries submitted to the EPA website may not be processed or responded to until appropriations are enacted.”

The EPA hosts several public datasets on its website. Two online data repositories, the Enforcement and Compliance History Online (ECHO) and the Toxics Release Inventory (TRI), are available for the public to check records of facilities’ emissions of regulated and unregulated pollutants and hazards. The repositories are the primary federal data source that communities can utilize to advocate for better compliance with environmental regulations and for more protective environmental regulations. Throughout the partial government shutdown, both ECHO (see [Page 2](#)) and TRI (see [Page 3](#)) were accessible to the public, though neither database was updated during that 35-day period, and ECHO was not updated until January 29th. Both websites displayed banners notifying the public that the data would not be updated until funding was restored.

EPA also hosts the Environmental Data Gateway (EDG), which contains myriad datasets, from a historical record of the date of first leaf appearance across the U.S., to lists of impaired waters, to air quality model data. The EDG homepage (see [Page 4](#)) remained the same throughout the partial shutdown, without the banner that appeared on so many EPA webpages, though some of the intermediate portals, such as the EPA Metadata Editor (see [Page 5](#)), included the EPA shutdown notice banner. Datasets in EDG remained available through the shutdown. Much of the data in EDG is synchronized with data.gov (which was completely unavailable, as will be discussed below).

Other agencies that host environmental and climate information, like the U.S. Department of Agriculture’s Climate Hubs (see [Page 6](#)), similarly posted banners informing the public that web resources would not be updated, but remained accessible to the public. The U.S. Geological Survey (USGS) within the Department of the Interior (DOI) posted a banner on its homepage (see [Page 7](#)) and other webpages stating that most USGS websites would not be updated during the shutdown, but that websites displaying real-time data, particularly earthquakes and water data, would be updated “with limited support.” USGS Earthquake data (see [Page 8](#)) remained accessible and was updated throughout the shutdown. Data

portals such as the Water Quality Portal (see [Page 9](#)), which is a collaborative effort among USGS, EPA, and the National Water Quality Monitoring Council to integrate water quality data from multiple agencies and datasets into a central water data repository, also remained available during the partial government shutdown. Perhaps the most iconic agency for climate and Earth data, the National Aeronautics and Space Administration (NASA), left its web resources available, including public data (see [Page 10](#)). NASA did not post a banner to notify the public that the data would not be updated during the shutdown.

Access to Data and Information Restricted

While web resources from agencies like EPA and NASA remained available during the shutdown, access to other web resources was severely restricted during the partial government shutdown.

The central data repository for federal agencies is Data.gov, managed by the General Services Administration (GSA), and is the gateway to 305,139 datasets (as of February 18, 2019). The entirety of the Data.gov domain was rendered inaccessible part-way throughout the shutdown. Starting on January 10, 2019, the entire data.gov homepage (see [Page 11a](#)) displayed only a notice stating that “all data.gov websites will be unavailable until further notice.” A similar notice was posted on the Data.gov website during the 16-day partial government shutdown in 2013 as well (See [Page 11b](#)). During the most recent partial government shutdown, webpages within the Data.gov domain returned error messages stating “Page Not Found. The page you were trying to view is not available or does not exist. This content may be temporarily unavailable. Check [Data.gov](#) for current operating status.” Visitors to specific webpages would not know if the data or page they were looking for didn’t exist or was temporarily blocked during the partial government shutdown. Interestingly, much of the data in Data.gov is synchronized with data available on other agency websites. For example, the Climate—Water resource collection (see [Page 12](#)) includes tools such as the Water Quality Portal, which was accessible through its own website at that time (see [Page 9](#)). Unfortunately, Data.gov did not direct web visitors to other sites hosting specific data. Thus, not only was the collation of information lost during the shutdown, visitors to Data.gov would have needed prior knowledge of an alternative source of the data they sought, or they would be unable to access the information.

The website for the National Oceanic and Atmospheric Administration (NOAA) was also severely restricted during the partial government shutdown. The main NOAA homepage, [www.noaa.gov](#) (see [Page 13](#)) displayed a banner that read, “Parts of the U.S. Government are closed. This site will not be updated; however NOAA websites and social media channels necessary to protect lives and property will be maintained. See [weather.gov](#) for critical weather information” and included a notice on the main text of the page, along with

a few links of general interest. The pages within the NOAA domain were presented during the shutdown in two ways: webpages contained that orange notification banner and their original content, or webpages redirected to a shutdown notice webpage, which made their original content entirely unavailable. The notice to which webpages redirected, <https://governmentshutdown.noaa.gov/>, simply read, “The website you are trying to access is not available at this time due to a lapse in appropriation. NOAA.gov and specific NOAA websites necessary to protect lives and property are operational and will be maintained during this partial closure of the U.S. Government. See weather.gov for forecasts and critical weather information. NOAA Federal Employees: Go to the NOAA Furlough information page for information, forms, and other resources related to the shutdown.” (see [Page 14a](#)). NOAA has utilized a notice page during government shutdowns since at least 2013 (see [Page 14b](#)). While a retrospective analysis of the scope of webpages redirecting to the shutdown notice in 2013 was not possible, the existence of the shutdown notice page during the 2013 partial government shutdown suggests that restricting access to information and data on the NOAA website has been a part of agency practice previously as well. The next section will discuss NOAA.gov website access restrictions during the most recent partial government shutdown.

Access to NOAA Websites Restricted

NOAA is a federal agency housed in the Department of Commerce. The mission of NOAA¹ is three-fold, summarized as “science, service, stewardship.” More specifically, NOAA’s mission is: “1. To understand and predict changes in climate, weather, oceans and coasts; 2. To share that knowledge and information with others; and 3. To conserve and manage coastal and marine ecosystems and resources.” To achieve this broad mission, NOAA has several offices that include the National Environmental Satellite, Data, and Information Service (NESDIS), Oceanic and Atmospheric Research (OAR), and the National Weather Service (NWS), among others. Each of those offices include centers, laboratories, or sub-offices, all with websites in the NOAA web domain.

The Environmental Data and Governance Initiative (EDGI) monitors 3,275 webpages in the NOAA web domain. During the partial government shutdown, 1,045 of those pages (32% of the pages EDGI monitors) were inaccessible. Of these, 1,015 redirected to <https://governmentshutdown.noaa.gov/>, and 30 pages included broken links that appear to be typos with an attempted redirect to the shutdown notice (such as <http://www.nesdisia.noaa.gov/news.html> attempting to redirect to <https://governmentshutdown.noaa.govnews.html/> with the misplaced slash, causing a page not found error). In addition to the 1,045 webpages that redirected and rendered their content unavailable, at least 170 other webpages were inaccessible by the end of the

¹ NOAA “Our mission and Vision”, <https://www.noaa.gov/our-mission-and-vision>. Accessed on February 15, 2019.

shutdown period due to security (SSL) certificates that had expired and had not been renewed.

The types of NOAA websites that were inaccessible during the partial government shutdown varied, and included primary landing pages and portals for critical NOAA climate and environmental programs and databases. Several examples are provided below.

National Centers' and Laboratories' Webpages

The websites for several national laboratories and research centers were blocked during the partial government shutdown, each redirecting to the shutdown notice splash page (see [Page 14a](#)). These included NOAA's primary centers for climate and environmental research and data. NOAA's National Centers for Environmental Information (NCEI) website (see [Page 15](#)), which is home to NOAA's vast and integrated archive of oceanic, atmospheric, and geophysical data, also redirected to the government shutdown splash page. Two of NCEI's partner websites, climate.gov and drought.gov, also redirected to the government shutdown splash page, rendering resources like climate.gov's teaching resources website (see [Page 16](#)) and drought.gov's reports repository (see [Page 17](#)) inaccessible to the public. The National Climatic Data Center (NCDC), which became part of NCEI in 2015, also had its website redirected to the government shutdown splash page (see [Page 18](#)). Additionally, the home page of the National Severe Storms Laboratory (NSSL) (see [Page 19](#)), a research laboratory within NOAA that improve severe weather forecasts in order to save lives and property,² was blocked and redirected to the government shutdown splash page. The Geophysical Fluid Dynamics Laboratory (GFDL) conducts research on the dynamics between the ocean, atmosphere, and various landforms to inform our understanding of global and regional climate and its variability. Even though GFDL is housed at Princeton University and is considered a collaborative program, the GFDL website (see [Page 20](#)) was also blocked and redirected to the government shutdown splash page. During the government shutdown, it would have been nearly impossible for the public to learn about the substantial climate and environment research and public resources available on NOAA's website. It is unclear why the agency would choose to restrict access to these program and research center websites, rather than simply inform the public that the websites may not be up to date during the shutdown.

It is important to reiterate that websites for the National Centers for Environmental Prediction (NCEP) (see [Page 21](#)), which are part of the National Weather Service, remained available throughout the duration of the partial government shutdown. NCEP delivers operational (rather than archival) climate, weather, and environmental modeling data used to forecast storms, hydrologic and atmospheric fluctuations that could impact air or sea

² The National Severe Storms Laboratory homepage, <https://www.nssl.noaa.gov/>. Accessed on February 15, 2019.

travel, and other critical services; NCEP landing pages and data access portals were maintained throughout the shutdown.

Data Access Points

In addition to informational pages, several public data portals were also blocked during the partial government shutdown. A primary portal to the vast data that NOAA serves, <https://data.noaa.gov/dataset> (see [Page 22](#)) which currently provides access to 79,472 datasets, was completely blocked, redirecting to the general shutdown notice splash page (see [Page 14](#)). NCEI's primary data access page (see [Page 23](#)), the gateway to diverse kinds of records and model data, also redirected to the government shutdown splash page. NCDC's data access page (see [Page 24](#)) similarly redirected to the government shutdown splash page, leaving website visitors unable to access archival weather, climate, and ocean model data from the main access portal. Other portals specifically for climate data and models were also rendered inaccessible for at least parts of the shutdown, such as the maps and data served from climate.gov (see [Page 25](#)) and the GFDL portal to climate model data (see [Page 26](#)). Surprisingly, some key weather *prediction* research and archival resources were rendered inaccessible as well during the partial government shutdown, including the NSSL Weather Research and Forecasting models (see [Page 27](#)) and the North American Mesoscale Forecast System (NAM) homepage and data portal (see [Page 28](#)).

Operational Versus Archival Data Accessibility

NOAA's National Operational Model and Distribution System (NOMADS) is a signature data source for weather prediction and climate models, integrating data from disparate sources. NOMADS is hosted both through the NCDC and through the NCEP, with the archival data served through NCDC and the operational model data posted to NCEP. Access to archival NOMADS data was largely restricted during the partial government shutdown as the primary NOMADS landing page in NCDC (see [Page 24](#)) and project information page (see [Page 29](#)) were redirected to the government shutdown splash page. It is unclear whether the NOMADS NCDC data index was accessible during the shutdown, due to a lack of archival snapshots available for that period. The timing of data uploads suggests that most datasets were not updated during the shutdown. Interestingly, access to some NOMADS model data appears to be protocol-dependent. For example, the NAM ftp path <ftp://nomads.ncdc.noaa.gov/NAM/Grid218/201901/> was not updated during the shutdown, but the NAM https path <https://nomads.ncdc.noaa.gov/data/namanl/201901/> was updated a few times during the shutdown.

Persons who utilize operational NOMADS data served through NCEP have confirmed that the NCEP NOMADS data portal and data product were available throughout the partial government shutdown. The maintenance of these vital data is a demonstration of NOAA delivering services that do protect lives and property.

The depth of supporting information about models and their data that is available through the NCDC website far exceeds the supporting information available through the NCEP website. Information on the NCDC model data website includes an orientation to each model, its purpose, and its products. These informational pieces are crucial to the true accessibility and utility of the data provided. While model data was available through the NCEP during the partial government shutdown, only persons already familiar with the datafiles and their formats would have been able to utilize that data. Presumably, the agencies, organizations, and companies that rely on operational NCEP data to keep the public safe, be it through aviation forecasts or weather advisories, would have the expertise and familiarity to continue working without data dictionaries and basic model information during that time. However, for the public to truly be able to access and utilize data, supporting information is crucial.

Implications for Data Management and Access

The most recent partial government shutdown offered a special opportunity for EDGI to document changes in public access to key federal data and information. The different web resource management approaches employed by different federal agencies during government shutdowns demonstrate vulnerabilities of continued public access to public federal data. Vulnerabilities witnessed in the most recent partial government shutdown include:

- Lapsed infrastructural maintenance resulting in expired security certificates that block access to most public users, and make websites and website users more susceptible to hackers.
- Blocked informational resources, making existing curated information delivered by taxpayer-funded research and science communication totally inaccessible to the public.
- Blocked informational and supporting materials necessary to orient, decipher, and evaluate data and model outputs, rendering data comprehension marginalized and inaccessible to new or unfamiliar users.
- Restricted data portals, rendering available data largely inaccessible.
- Stalled updates to public datasets and databases, creating potential asynchronicities and a backlog of updates to address.

It is unclear why certain agencies chose to block access to so much public information and data during the shutdown, while other agencies maintained access to their web resources. In the future, agencies should address the low-hanging fruits of protecting public data through maintaining regular access to informational materials, datasets, models, and supporting materials necessary for interpretation of data and models; alerting the public to interruptions to regular data updates; and scheduling automated security certificate renewals. The greater challenge may be to protect and ensure continuity of datasets,

especially those that are manually derived such as EPA's ECHO which will not be updated during most lapses in federal funding. These datasets may be among the most vulnerable in potentially restricted future federal budgets as well, and are unique resources to the public.

List of Acronyms

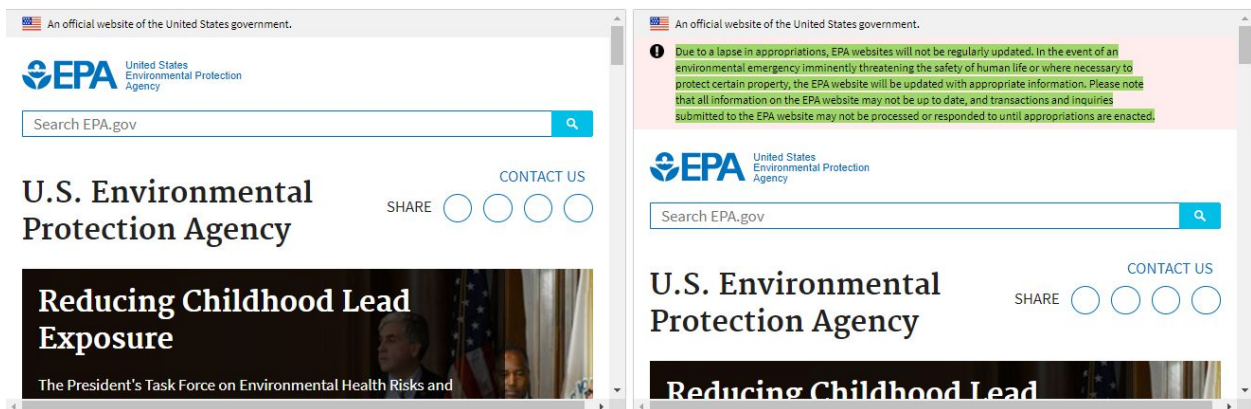
DOI	Department of the Interior
ECHO	Enforcement and Compliance History Online (database by EPA)
EDG	Environmental Data Gateway (data portal served by EPA)
EDGI	Environmental Data and Governance Initiative
EPA	Environmental Protection Agency
GFDL	Geophysical Fluid Dynamics Laboratory (in OAR in NOAA)
GSA	General Services Administration
NASA	National Aeronautics and Space Administration
NCDC	National Climatic Data Center (consolidated into NCEI, in NESDIS in NOAA)
NCEI	National Centers for Environmental Information (in NESDIS in NOAA)
NCEP	National Centers for Environmental Prediction (in NWS in NOAA)
NESDIS	National Environmental Satellite, Data, and Information Service (in NOAA)
NOAA	National Oceanic and Atmospheric Administration
NOMADS	NOAA Operational Model Archive and Distribution System (product by NCEI, NCEP, GFDL)
NSSL	National Severe Storms Laboratory (in OAR in NOAA)
NWS	National Weather Service (in NOAA)
OAR	Oceanic and Atmospheric Research (in NOAA)
TRI	Toxics Release Inventory (database by EPA)
USDA	United States Department of Agriculture
USGS	United States Geological Survey (agency in DOI)

Detailed Descriptions of Changes

Page 1: Environmental Protection Agency

- URL: <https://www.epa.gov>
- Banner added between **4:30 pm EST December 28, 2018** and **9:03 pm EST December 28, 2018**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20181228213040/https://www.epa.gov/>
 - After: <https://web.archive.org/web/20181229020305/https://www.epa.gov/>

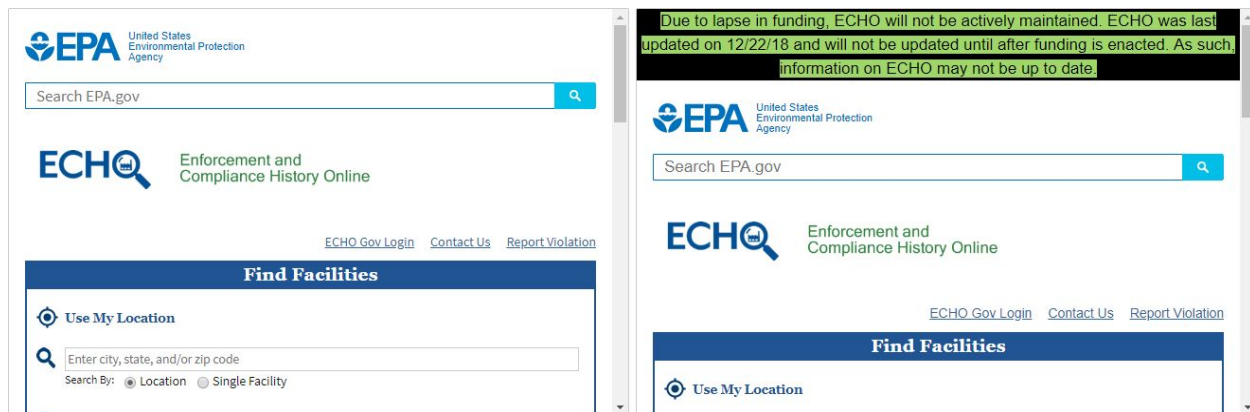
Screenshot 1



Page 2: Enforcement and Compliance History Online

- URL: <https://echo.epa.gov>
- Banner added between **12:13 am EST December 31, 2018** and **10:21 pm EST December 31, 2018**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20181231051319/https://echo.epa.gov/>
 - After: <https://web.archive.org/web/20190101032107/https://echo.epa.gov/>

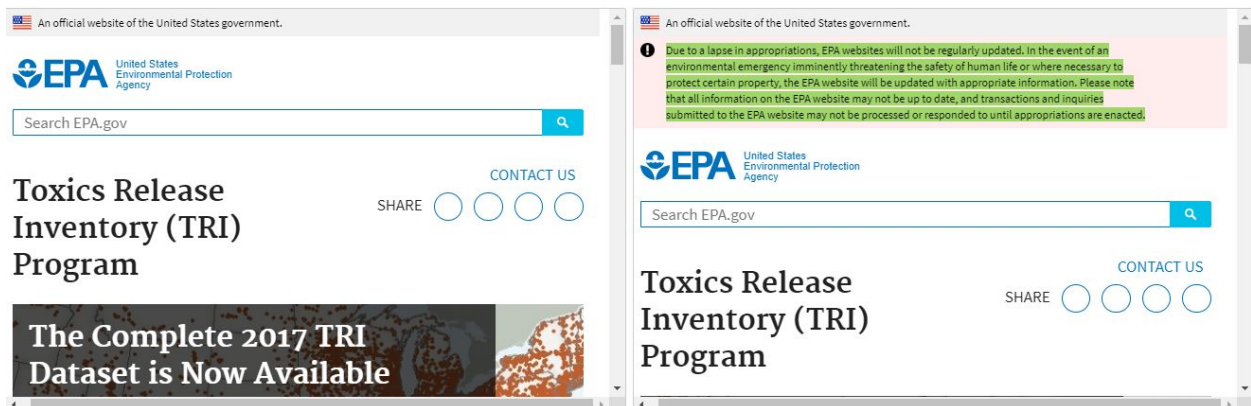
Screenshot 2



Page 3: Toxics Release Inventory Program

- URL: <https://www.epa.gov/toxics-release-inventory-tri-program>
- Banner added between **8:57 pm EST December 27, 2018** and **8:52 pm EST December 28, 2019**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181228015726/https://www.epa.gov/toxics-release-inventory-tri-program>
 - After:
<https://web.archive.org/web/20181229015247/https://www.epa.gov/toxics-release-inventory-tri-program>

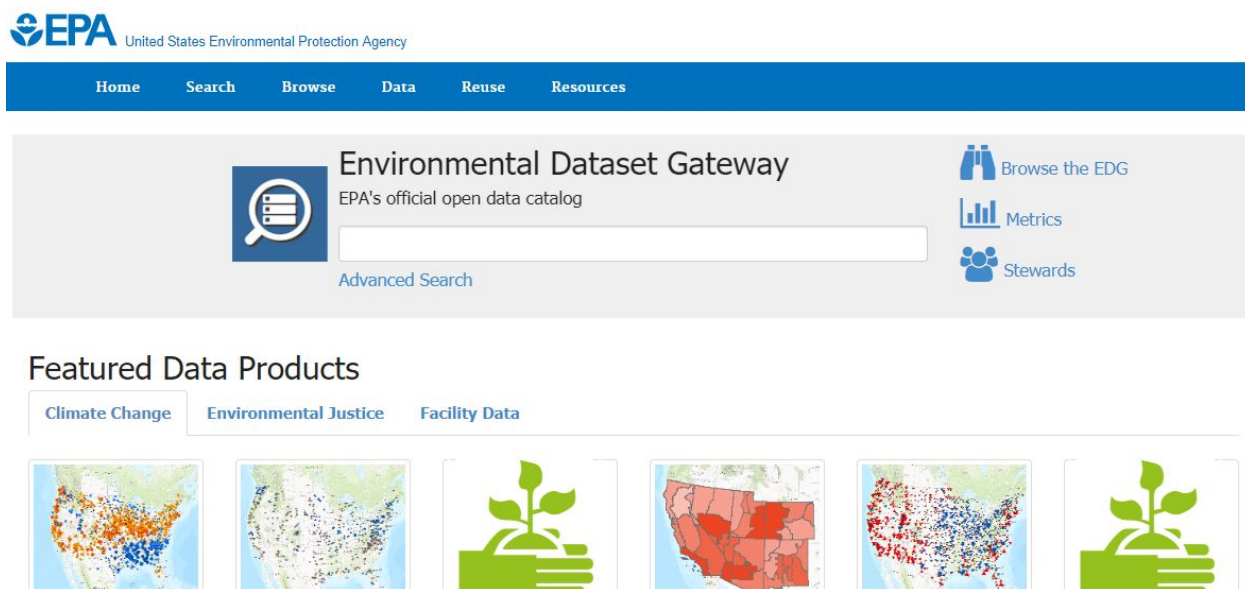
Screenshot 3



Page 4: Environmental Data Gateway

- URL: <https://edg.epa.gov>
- Changes did not occur between December 22, 2018 and January 25, 2019
- Representative Internet Archive Wayback Machine link:
<https://web.archive.org/web/20190110000752/https://edg.epa.gov/metadata/catalog/main/home.page>

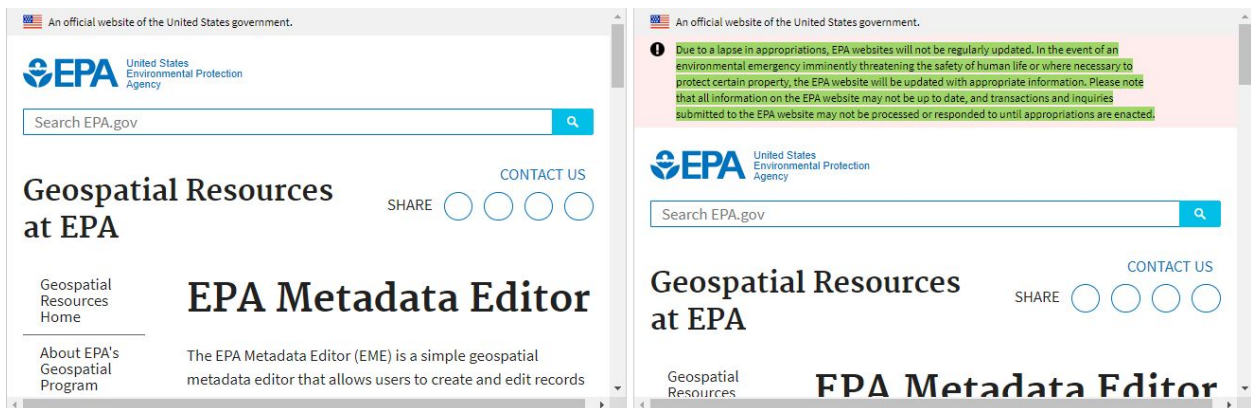
Screenshot 4



Page 5: EPA Metadata Editor

- URL: <https://edg.epa.gov/EME/>
- Banner added between **8:57 pm EST December 27, 2019** and **9:04 pm EST December 28, 2019**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181228015703/https://www.epa.gov/geospatial/epa-metadata-editor>
 - After:
<https://web.archive.org/web/20181229020444/https://www.epa.gov/geospatial/epa-metadata-editor>

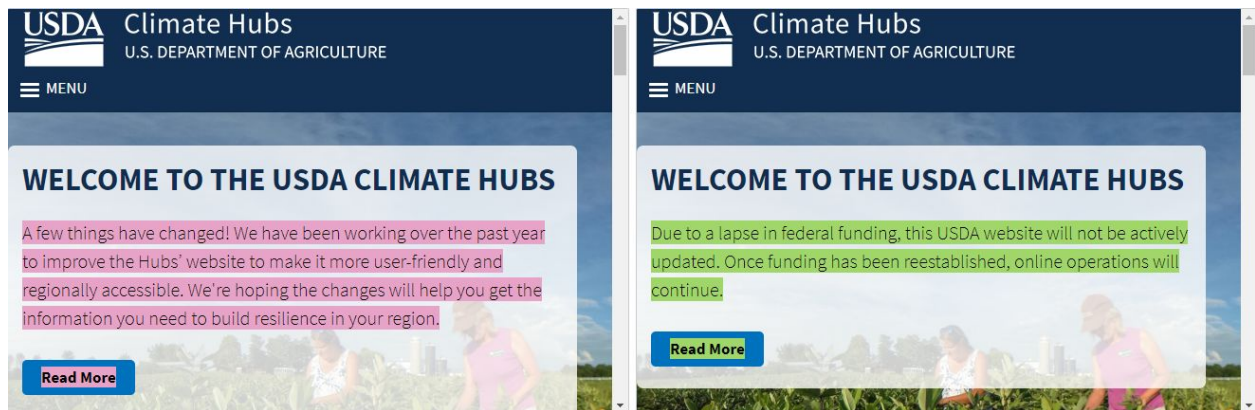
Screenshot 5



Page 6: USDA Climate Hubs

- URL: <https://www.climatehubs.oce.usda.gov/>
- Banner changed between **7:30 pm EST December 21, 2018** and **5:57 pm EST December 22, 2019**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181222003001/https://www.climatehubs.oce.usda.gov/>
 - After:
<https://web.archive.org/web/2018122225739/https://www.climatehubs.oce.usda.gov/>

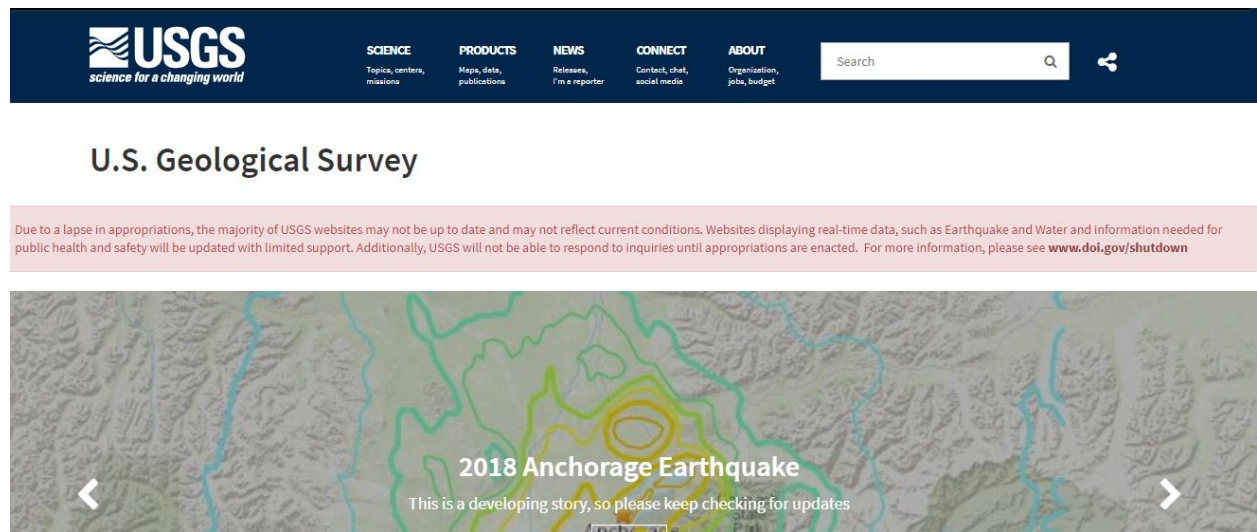
Screenshot 6



Page 7: U.S. Geological Service

- URL: <https://www.usgs.gov>
- Banner added between **4:29 am EST December 22, 2018** and **1:42 pm EST December 22, 2018**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20181222092955/https://www.usgs.gov/>
 - After: <https://web.archive.org/web/20181222184227/https://www.usgs.gov/>

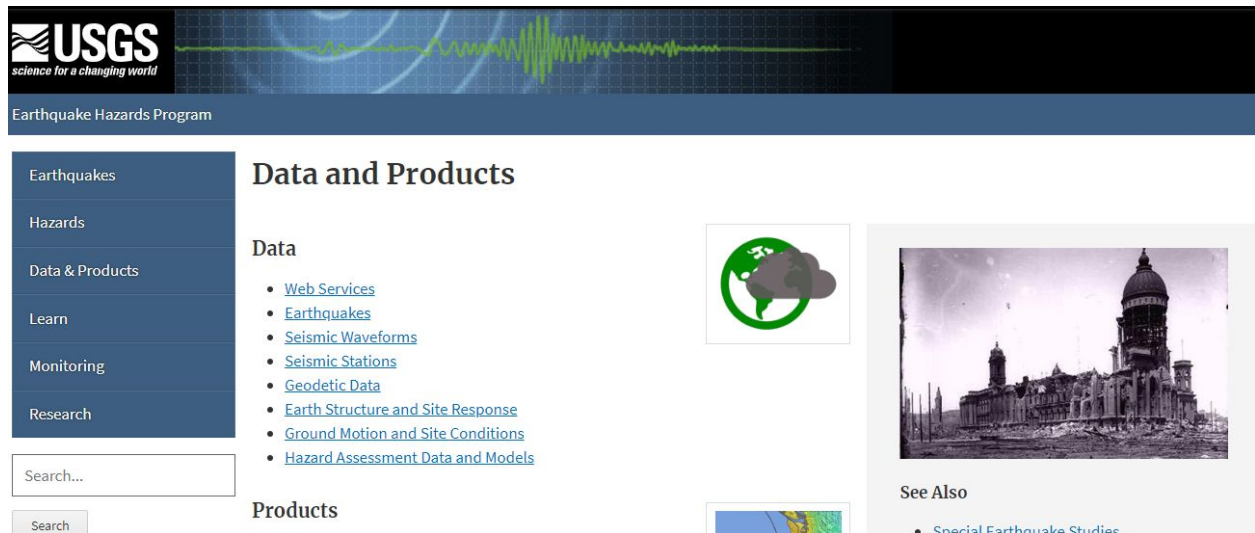
Screenshot 7



Page 8: Earthquake Hazards Program Data and Products

- URL: <https://earthquake.usgs.gov/data>
- Changes did not occur
- Representative Internet Archive Wayback Machine link:
<https://web.archive.org/web/20190110005026/https://earthquake.usgs.gov/data/>

Screenshot 8



Page 9: Water Quality Portal

- URL: <https://www.waterqualitydata.us>
- Banner added between **4:45 pm EST November 7, 2018** and **6:33 pm EST January 18, 2019**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181107213521/https://www.waterqualitydata.us/>
 - After:
<https://web.archive.org/web/20190118233319/https://www.waterqualitydata.us/>

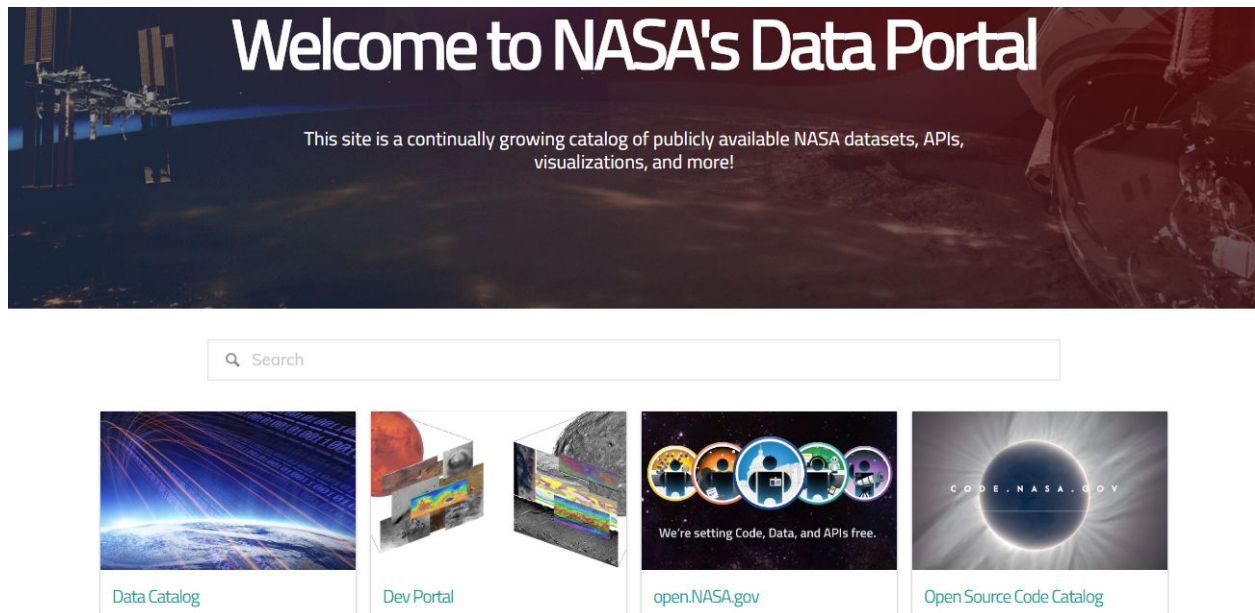
Screenshot 9



Page 10: NASA's Data Access Portal

- URL: <https://data.nasa.gov>
- Changes did not occur during the shutdown
- Representative Internet Archive Wayback Machine link:
<https://web.archive.org/web/20190112104140/https://data.nasa.gov/>

Screenshot 10



Page 11a: Data.gov homepage

- URL: <https://www.data.gov>
- Changes occurred between **9:07 pm January 8, 2019** and **2:59 am EST January 10, 2019**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20190109020721/https://www.data.gov/>
 - After: <https://web.archive.org/web/20190110075951/https://www.data.gov/>

Screenshot 11a



Due to a lapse in government funding all Data.gov websites will be unavailable until further notice.

Updates regarding government operating status and resumption of normal operations can be found at [USA.gov](https://www.usa.gov)

Page 11b: Data.gov homepage

- URL: <https://www.data.gov>
- Content of Data.gov homepage during **2013** partial government shutdown
- Representative Internet Archive Wayback Machine link:
<https://web.archive.org/web/20131004131953/http://notice.usa.gov/>

Screenshot 11b



Due to the lapse in federal government funding, this website is not available.
We sincerely regret this inconvenience.

For information about available government services, visit USA.gov.

Este sitio web no se está disponible durante el cierre del Gobierno.
Lamentamos profundamente las molestias que esto pueda causar.

Visite GobiernoUSA.gov para informarse sobre los servicios gubernamentales
disponibles durante el cierre del Gobierno.



Page 12: Climate Water Resources

- URL: <https://www.data.gov/climate/water/water-resources>
- Page redirect began between **9:01 pm EST January 8, 2019** and **8:18 pm EST January 10, 2019**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20190109020126/https://www.data.gov/climate/water/water-resources>
 - There is not a screenshot available from IAWM because the page redirected with a Page Not Found error, which IAWM scrapers do not record.

Screenshot 12

Featured Content

The 2014 National Climate Assessment provides background information to help communities, water utilities, resource managers, and food and energy producers prepare for a changing climate. Given a need to develop resilience strategies based on an uncertain future, many experts look to past climate extremes for information to help guide and constrain decision-making. Information resources that may be helpful to provide characterization of the past and insight into the future include:

National Water Information System

National Water Information System

NWIS provides access to water-resources data collected at approximately 1.5 million sites in all 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands. The USGS investigates the occurrence, quantity, quality, distribution, and movement of surface and underground waters and disseminates the data to the public, State and local

Page Not Found

The page you were trying to view is not available or does not exist.

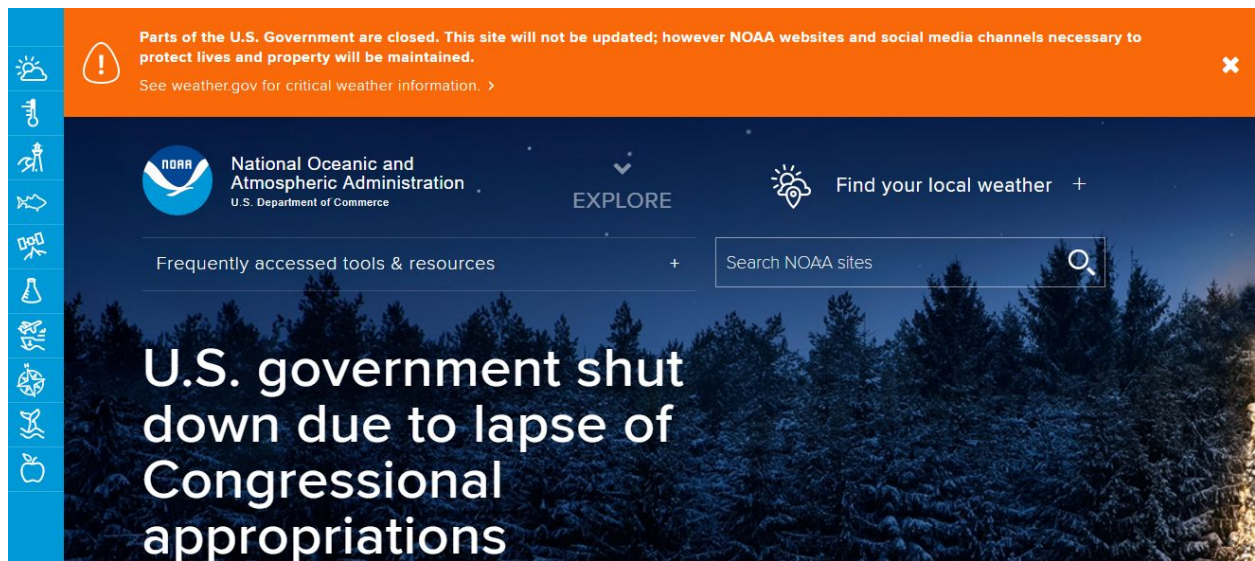
This content may be temporarily unavailable.

Check [Data.gov](https://www.data.gov) for current operating status.

Page 13: NOAA homepage

- URL: <https://www.noaa.gov>
- Banner added between **11:15 pm December 25, 2018** and **11:53 am December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before: <http://web.archive.org/web/20181226041500/https://www.noaa.gov/>
 - After: <http://web.archive.org/web/20181226165335/https://www.noaa.gov/>

Screenshot 13



Page 14a: NOAA Status Alert

- URL: <https://governmentshutdown.noaa.gov>
- Page was live by **10:32 pm EST December 21, 2018**
- Internet Archive Wayback Machine link:
<https://web.archive.org/web/20181222033225/https://governmentshutdown.noaa.gov/>

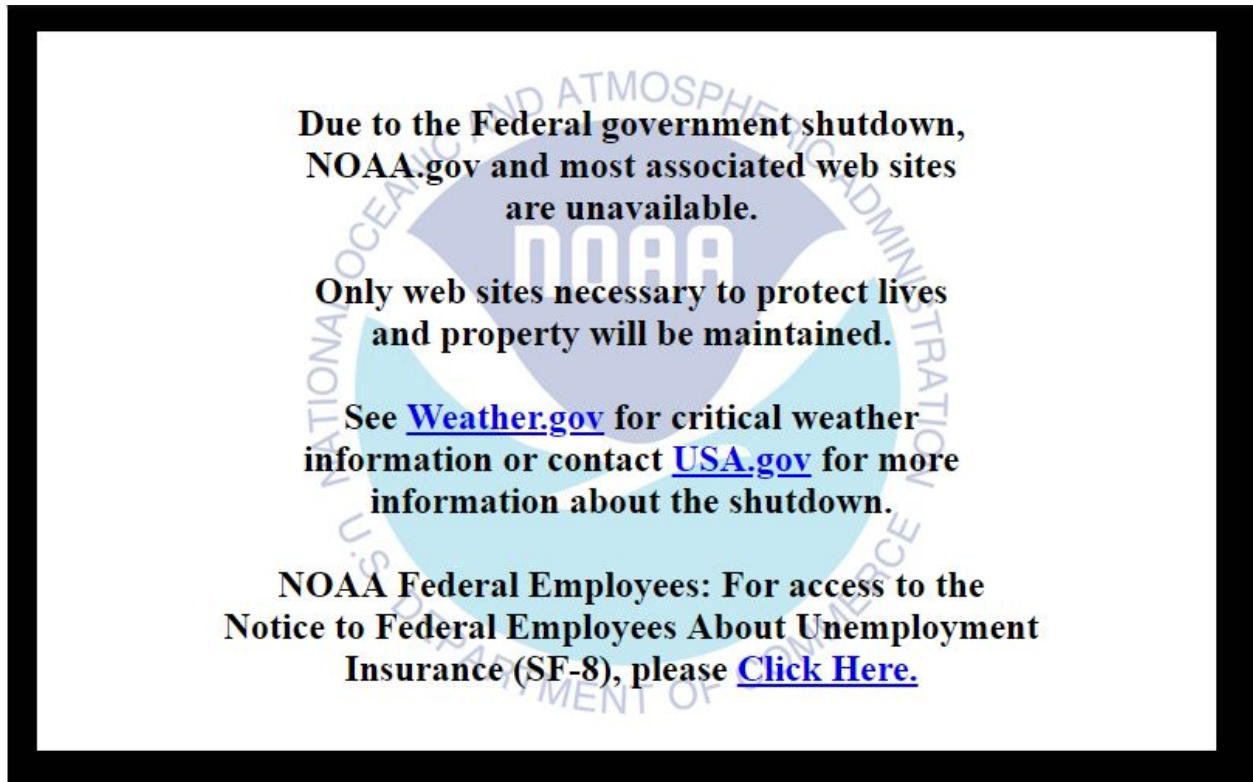
Screenshot 14a



Page 14b: NOAA Status Alert

- URL: <https://governmentshutdown.noaa.gov>
- Page live during **2013** partial government shutdown
- Internet Archive Wayback Machine link:
<https://web.archive.org/web/20131003020238/http://governmentshutdown.noaa.gov/>

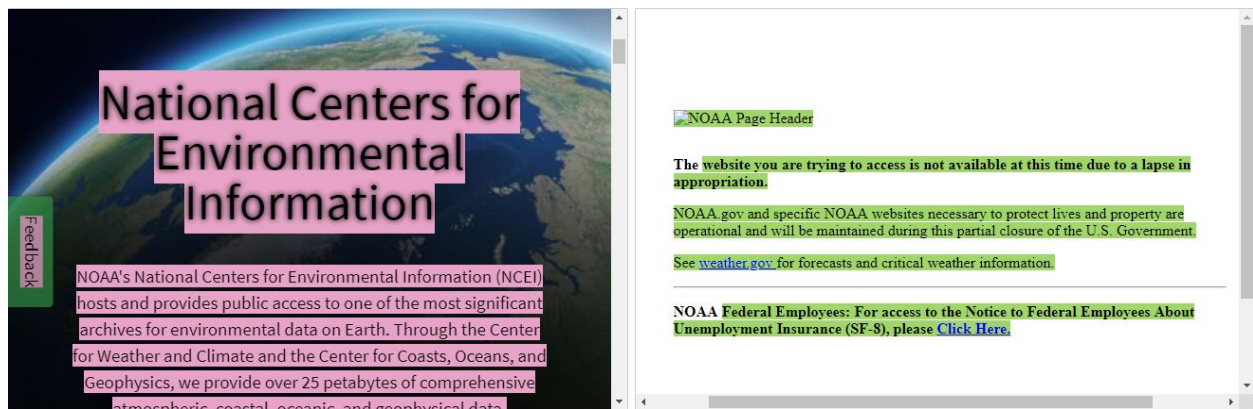
Screenshot 14b



Page 15: National Centers for Environmental Information

- URL: <https://www.ncei.noaa.gov>
- Page redirect began between **12:58 am EST December 26, 2018** and **8:42 pm EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226055841/https://www.ncei.noaa.gov/>
 - After:
<https://web.archive.org/web/20181227014249/https://www.ncei.noaa.gov/>

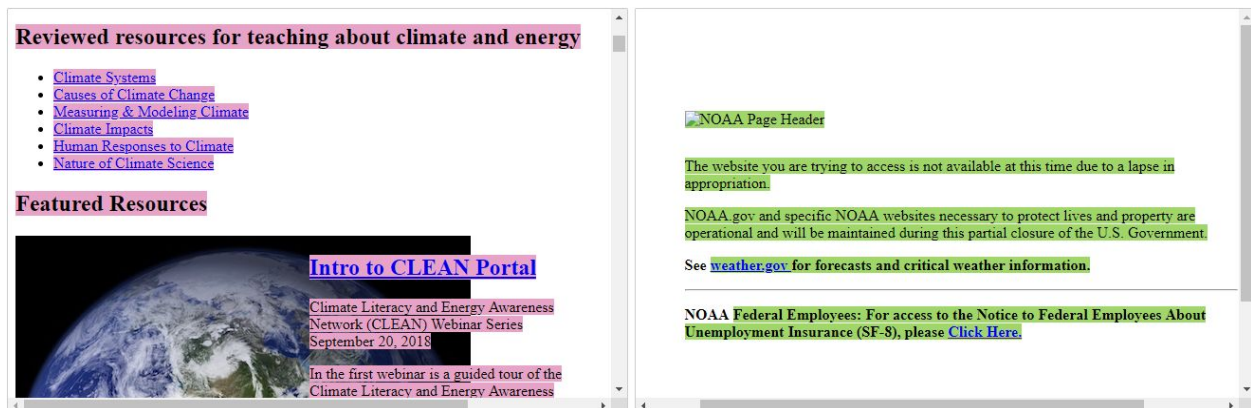
Screenshot 15



Page 16: Teaching

- URL: <https://www.climate.gov/teaching>
- Page redirect began between **10:13 pm EST December 25, 2018** and **8:42 am EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226031353/https://www.climate.gov/teaching>
 - After:
<https://web.archive.org/web/20181226134232/https://www.climate.gov/teaching>

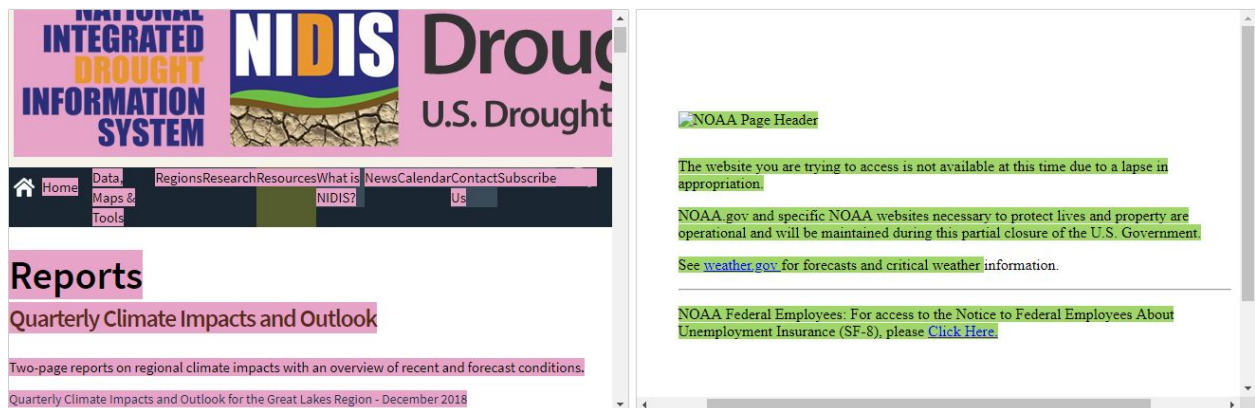
Screenshot 16



Page 17: U.S. Drought Portal – Reports

- URL: <https://www.drought.gov/drought/resources/reports>
- Page redirect began between **8:15 pm EST December 25, 2018** and **8:42 pm EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226011558/https://www.drought.gov/drought/resources/reports>
 - After:
<https://web.archive.org/web/20181227014249/https://www.drought.gov/drought/resources/reports>

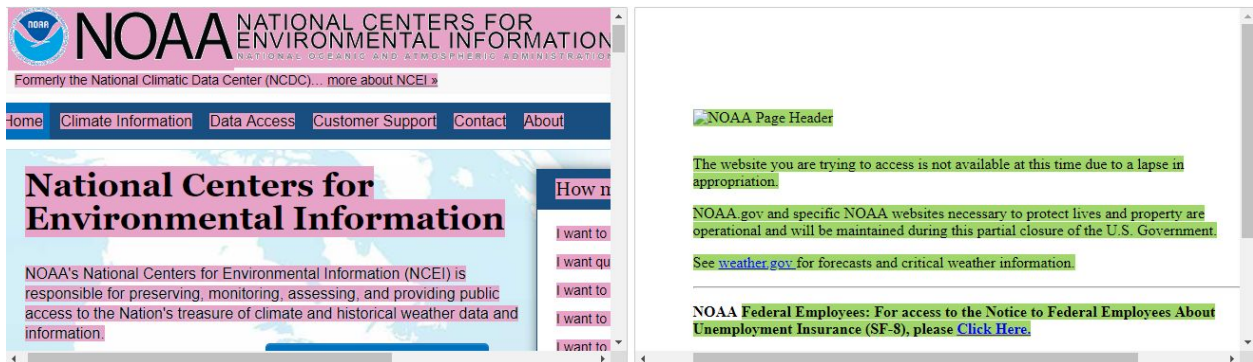
Screenshot 17



Page 18: National Climatic Data Center

- URL: <https://www.ncdc.noaa.gov>
- Page redirect began between **11:48 pm EST December 25, 2018** and **12:14 am EST December 27, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226044857/https://www.ncdc.noaa.gov/>
 - After:
<https://web.archive.org/web/20181227051405/https://www.ncdc.noaa.gov/>

Screenshot 18



Page 19: National Severe Storms Laboratory

- URL: <https://www.nssl.noaa.gov>
- Page redirect began between **9:59 pm EST December 21, 2018** and **2:51 pm EST December 22, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181222025919/https://www.nssl.noaa.gov/>
 - After:
<https://web.archive.org/web/20181222195155/https://www.nssl.noaa.gov/>

Screenshot 19



Loading...

`https://www.nssl.noaa.gov/ |`
`19:51:55 December 22, 2018`

`Got an HTTP 302 response at crawl time`

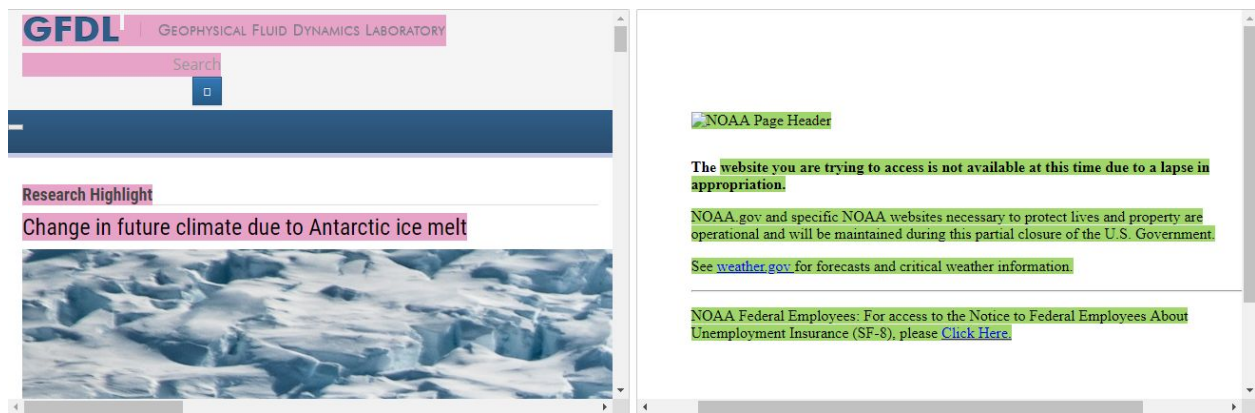
Redirecting to...

`http://governmentshutdown.noaa.gov`

Page 20: Geophysical Fluid Dynamics Laboratory

- URL: <https://www.gfdl.noaa.gov>
- Page redirect began between **10:01 pm EST December 25, 2018** and **10:53 pm EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226030114/https://www.gfdl.noaa.gov/>
 - After:
<https://web.archive.org/web/20181227035302/https://www.gfdl.noaa.gov/>

Screenshot 20



Page 21: National Centers for Environmental Prediction

- URL: <https://www.ncep.noaa.gov>
- Page stayed live during the shutdown
- Representative Internet Archive Wayback Machine link:
<https://web.archive.org/web/20190101032648/https://www.ncep.noaa.gov/>

Screenshot 21

National Weather Service
National Centers
for
Environmental Prediction

Home News Organization

DOC NOAA NWS NCEP Centers: AWC CPC EMC NCO NHC OPC SPC SWPC WPC

Top News of the Day (Updated Monday, 12-Mar-2018 14:56:03 UTC)

- The Q1 2018 Edition of the NCEP Newsletter is now available.
- NCEP Diversity & Inclusion Series Upcoming Events
- NCEP Strategic Plan 2015-2019 is now available.
- The University Corporation for Atmospheric Research Community Advisory Committee for NCEP (UCACN) Model Advisory Committee (UMAC) Report

Visit the NCEP News Archive

Read Our Quarterly Newsletter

The Office of the Director at the National Centers for Environmental Prediction gives overarching management to the nine centers, which include the:

- Aviation Weather Center** provides aviation warnings and forecasts of hazardous flight conditions at all levels within domestic and international air space.
- Climate Prediction Center** monitors and forecasts short-term climate fluctuations and provides information on the effects climate patterns can have on the nation.
- Environmental Modeling Center** develops and improves numerical weather, climate, hydrological and ocean prediction through a broad program in partnership with the research community.
- National Hurricane Center** provides forecasts of the movement and strength of tropical weather systems and issues watches and warnings for the U.S. and surrounding areas.
- NCEP Central Operations** sustains and executes the operational suite of numerical analyses and forecast models and prepares NCEP products for dissemination.
- Ocean Prediction Center** issues weather warnings and forecasts out to five days for the Atlantic and Pacific Oceans north of 30 degrees North.
- Space Weather Prediction Center** provides space weather alerts and warnings for disturbances that can affect

Local forecast by "City, St"
City, St
Search NCEP

Current Hazards
Watches/Warnings
Outlooks
National
Current Conditions
Observations
Satellite Images
Radar Imagery
Lakes & Rivers
Space Weather
Environmental Models
Product Info
Current Status
Model Analysis & Guidance
Forecasts
Current
6 to 10 Day
Aviation
Hurricane
Marine
Tropical Marine
Fire Weather
Forecast Maps
Unified Surface Analysis
Climate
Climate Prediction
Climate Archives
Training
International Desks
Weather Safety
Storm Ready
NOAA Libraries
NOAA Science
Center Library

Page 22: NOAA Data Catalog

- URL: <https://data.noaa.gov/dataset>
- Page redirect began between **7:42 pm EST December 25, 2018** and **8:01 pm EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226004243/https://data.noaa.gov/dataset/>
 - After:
<https://web.archive.org/web/20181227010155/https://data.noaa.gov/dataset>

Screenshot 22

67,133 datasets found

Filter Results

2010 NOAA Ortho-rectified Mosaic of Lake Michigan - West Coast

This data set contains ortho-rectified mosaic tiles, created as a product from the NOAA Integrated Ocean and Coastal Mapping (IOCM) initiative. The source imagery was acquired...

2014 NOAA Ortho-rectified Mosaic of Hurricane Sandy Coastal Impact Area

This data set contains ortho-rectified mosaic tiles at 0.35m GSD created for NOAA Integrated Ocean and Coastal Mapping (IOCM) initiative in Hurricane Sandy coastal impacted...

2016 NOAA NGS Ortho-rectified Color Mosaic of St. Paul Island, Alaska

This data set contains ortho-rectified mosaic tiles, created as a product from the NOAA Integrated Ocean and Coastal Mapping (IOCM) initiative. The source imagery was acquired...

NOAA Page Header

The website you are trying to access is not available at this time due to a lapse in appropriation.

NOAA.gov and specific NOAA websites necessary to protect lives and property operational and will be maintained during this partial closure of the U.S. Government.

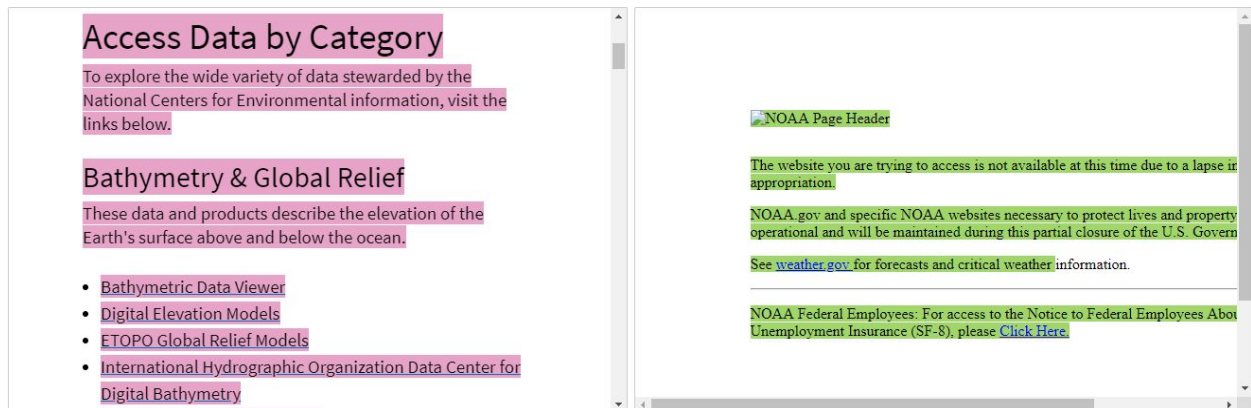
See [weather.gov](https://www.weather.gov) for forecasts and critical weather information.

NOAA Federal Employees: For access to the Notice to Federal Employees and Unemployment Insurance (SF-8), please [Click Here](#).

Page 23: Access Data by Category

- URL: <http://www.ncei.noaa.gov/access>
- Page redirect began between **8:23 pm EST December 25, 2018** and **8:45 pm EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226012349/https://www.ncei.noaa.gov/access>
 - After:
<https://web.archive.org/web/20181227014544/https://www.ncei.noaa.gov/access/>

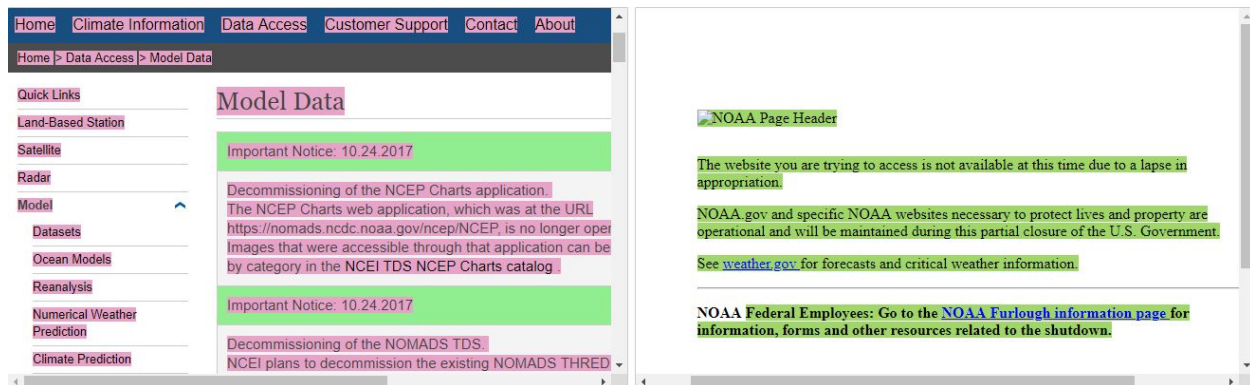
Screenshot 23



Page 24: Model Data

- URL: <https://www.ncdc.noaa.gov/data-access/model-data>
- Page redirect began between **12:20 am EST December 26, 2018** and **12:28 am EST December 28, 2018**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20181226052010/https://www.ncdc.noaa.gov/data-access/model-data>
 - After: <https://web.archive.org/web/20181228052838/https://www.ncdc.noaa.gov/data-access/model-data>

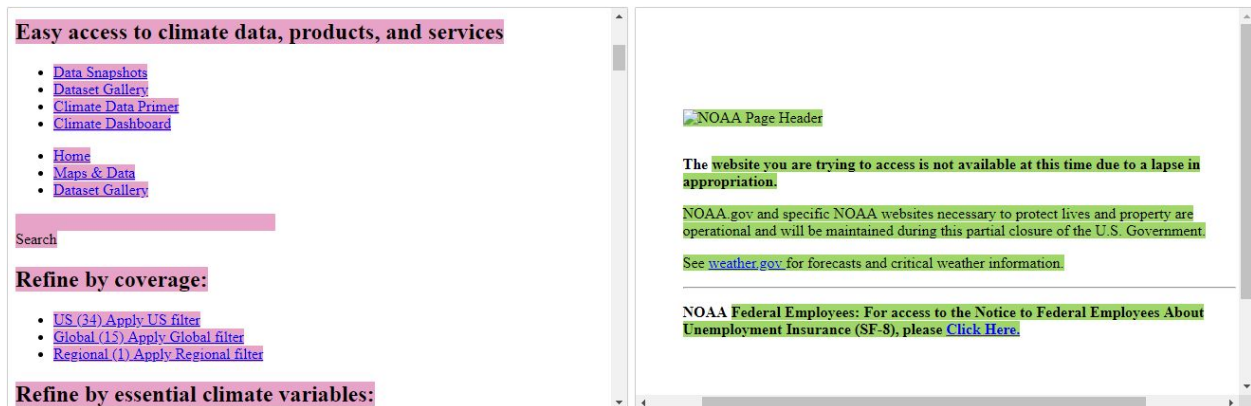
Screenshot 24



Page 25: Dataset Gallery

- URL: <https://www.climate.gov/maps-data/datasets>
- Page redirect began between **1:18 am EST December 26, 2018** and **8:53 am EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20181226061834/https://www.climate.gov/maps-data/datasets>
 - After: <https://web.archive.org/web/20181226135348/https://www.climate.gov/maps-data/datasets>

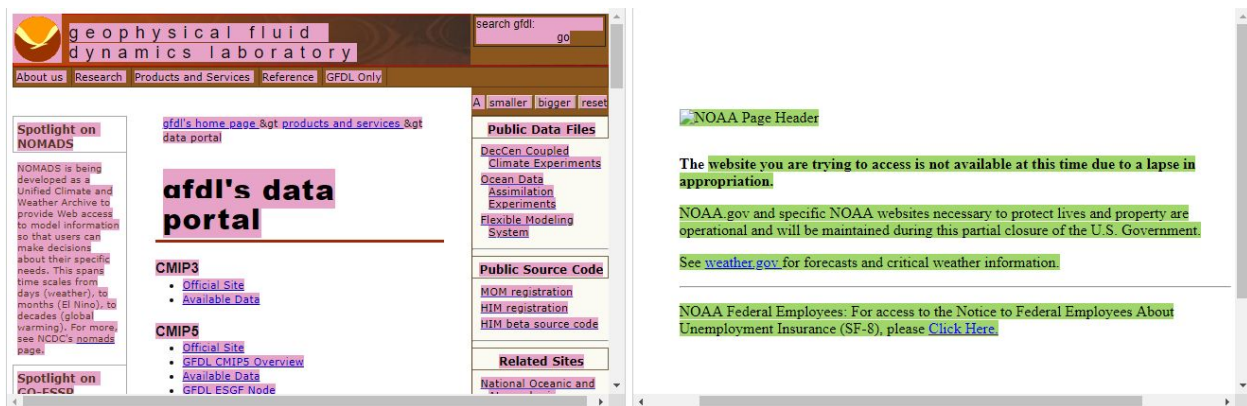
Screenshot 25



Page 26: GFDL's Data Portal

- URL: <https://data1.gfdl.noaa.gov/>
- Page redirect began between **10:01 pm EST December 25, 2018** and **10:53 pm EST December 26, 2018**
- Internet Archive Wayback Machine links:
 - Before: <https://web.archive.org/web/20181226030124/https://data1.gfdl.noaa.gov/>
 - After: <https://web.archive.org/web/20181227035322/https://data1.gfdl.noaa.gov/>

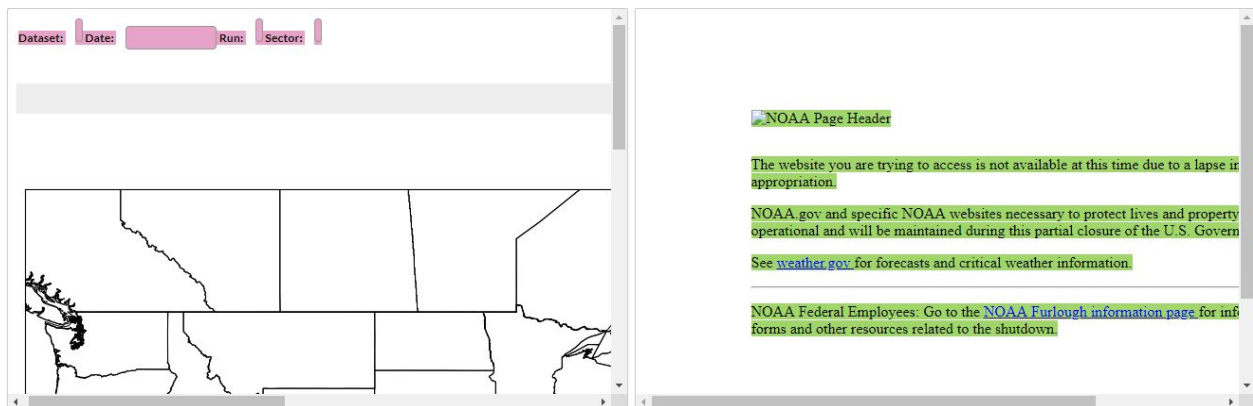
Screenshot 26



Page 27: NSSL CAMs

- URL: <https://wrf.nssl.noaa.gov/>
- Page redirect began between **9:57 pm EST December 21, 2018** and **8:17 pm EST December 22, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181222025742/https://wrf.nssl.noaa.gov/>
(note: redirects to CAMS site for model runs)
 - After:
<https://web.archive.org/web/20181223011742/http://wrf.nssl.noaa.gov/>

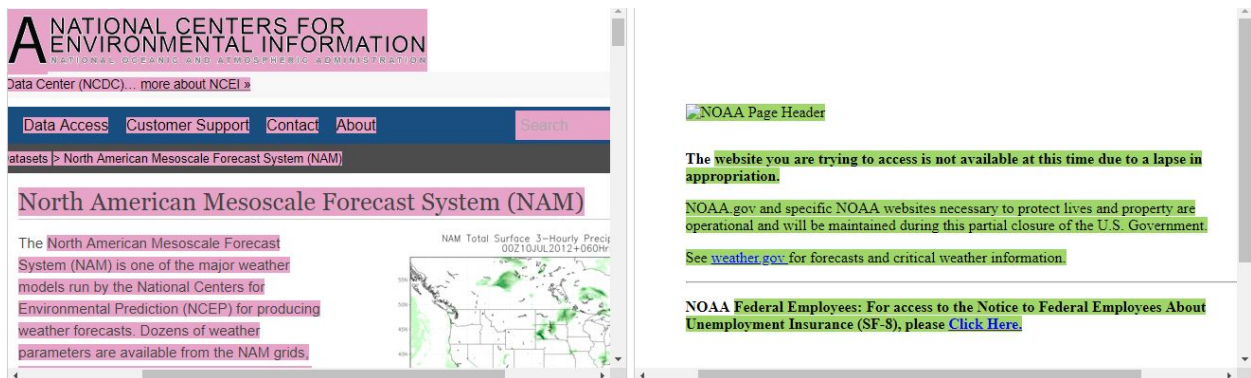
Screenshot 27



Page 28: North American Mesoscale Forecast System

- URL:
<https://www.ncdc.noaa.gov/data-access/model-data/model-datasets/north-american-mesoscale-forecast-system-nam>
- Page redirect began between **11:53 pm EST December 25, 2018** and **12:17 am December 27, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226045342/https://www.ncdc.noaa.gov/data-access/model-data/model-datasets/north-american-mesoscale-forecast-system-nam>
 - After:
<https://web.archive.org/web/20181227051720/https://www.ncdc.noaa.gov/data-access/model-data/model-datasets/north-american-mesoscale-forecast-system-nam>

Screenshot 28



Page 29: The NOMADS Project

- URL: <https://nomads.ncdc.noaa.gov/>
- Page redirect began between **11:54 pm EST December 25, 2018** and **12:17 am EST December 27, 2018**
- Internet Archive Wayback Machine links:
 - Before:
<https://web.archive.org/web/20181226045427/https://www.ncdc.noaa.gov/nomads>
 - After:
<https://web.archive.org/web/20181227051744/https://www.ncdc.noaa.gov/nomads>

Screenshot 29

