ERG Memorandum

Final Deliverables Memo for Scope 13: Chesapeake Bay Watershed Climate Data and Mapping Repository

To: Jennifer Dopkowski, John Wolf, and Angie Wei, CBPO
From: Chris Lamie, ERG
June 29, 2019

Overview

In 2018 and 2019, Eastern Research Group, Inc. (ERG) worked with the Chesapeake Bay Program Office (CBPO) and the Climate Resiliency Workgroup (CRWG) to develop a repository of data layers that can be used to answer questions related to the "Climate Resiliency" goal and outcomes in the 2014 *Chesapeake Bay Watershed Agreement*. This memo summarizes our approach, findings, and outputs. It also provides recommendations for long-term maintenance to keep the repository current.

Project Summary

ERG began by scoping the project with our CBPO counterparts, developing a detailed work plan, and preparing an EPA-standard quality assurance project plan (QAPP). Through early discussions, we learned that the CBPO envisioned creating a web-based ArcGIS Open Data repository that could be used both internally and by the public. This repository will store information about geospatial and non-geospatial data layers, with links to existing sources (as it is not necessary to create duplicate copies of resources that are already hosted by others). We also learned that the actual implementation of a web-based Open Data repository was a work in progress at the CBPO and would be best to synchronize with other efforts that were proceeding on different timeframes. Thus, we agreed to use the bulk of our contract resources to populate an Excel file that CBPO staff can eventually feed into the final repository. We populated the Excel file with as many datasets, and as many pertinent details for each dataset, as our resources would allow.

We used the following steps to frame, populate, and optimize the repository contents:

1. **Define a list of topics of interest.** Using prior ERG/CBPO projects as an efficient starting point, we defined a tiered set of topics:

    - Tier 1: topics in the proposed suite of 21 Chesapeake climate change indicators. We captured all of these topics in the repository to the extent that data sources could be identified.
    - Tier 2: other topics that the CBPO or the CRWG specifically identified as being a high priority for this project. Examples could include topics that are the subject of frequent data requests. We received a few suggestions from members of the CRWG that we included in this tier.
    - Tier 3: other topics from the list of 67 "high-priority" topics that were carried through to our "value-added" scoring exercises during our prior GIT-funded indicator development project.

We captured all of these topics in the repository to the extent that data sources could be identified.

- Tier 4: other topics from the master list of 210 topics that formed a starting point for the indicator development project. We captured all of these topics in the repository to the extent that data sources could be identified.

- Tier 5: any additional topics that we had time to capture. We did not end up finding many additional topics—likely because the other four tiers were so comprehensive.

2. **Develop a framework for the repository table.** We worked with the CBPO to identify the fields we wanted to capture in the table. We defined data types, validation rules (for certain fields), and data entry instructions to ensure consistent interpretation by our analysts. Appendix A of this memo provides our data dictionary and data entry guidance.

3. **Locate data sources and populate key fields in the metadata matrix.** The goal of this step was to compile a list of available data sources for each topic of interest and capture enough information to inform the application of data quality criteria for each topic (see Step 4 below). We compiled information from ERG's prior EPA and CBPO project resources, web research, and conversations with data providers. Ultimately, we located 123 data layers and began to populate the matrix with pertinent information about them.

4. **Apply data quality criteria.** We knew that our end product would have many users with varying needs that might be best addressed by different data sources. For example, one user might benefit from a high-resolution dataset that is limited to one state, while another user might prefer lower resolution that covers the entire watershed. Thus, for topics that have a variety of data sources available, we did not feel it was appropriate or productive for ERG to preemptively limit a user's choices by only including one dataset in the repository. That said, we recommended limiting the repository to datasets that met the following minimum criteria:

    - Criterion #1: The data are publicly accessible. This criterion weeded out proprietary academic or commercial datasets.

    - Criterion #2: We have a reasonable expectation that the data source will continue to be updated. This step weeded out datasets produced by organizations or programs that are now defunct or defunded, datasets that have not been updated for several years (aside from expected time lags for processing, which ERG is familiar with through our work with a wide variety of environmental indicators), and datasets for which the documentation explicitly states that the compilation was a one-time effort that might not be repeated.

    - Criterion #3: The data come from a credible source. This step weeded out datasets that appear to reflect an ad hoc or unscientific approach to sampling or that lack the credibility of a government or academic source.

    - Criterion #4: The dataset provides unique value. This step weeded out data sources that were duplicates or subsets of other sources already captured in the repository. It also weeded out sources that had limited utility in that they would require extensive legwork or processing by the user to be able to use the data for a climate-related analysis.

Appendix B describes how ERG applied each of these criteria. Appendix C documents the scoring results for 31 datasets that ERG excluded from the final repository based on an objective review of these criteria.

5. **Populate the remainder of the matrix.** A total of 92 datasets passed the scoring criteria for inclusion. ERG populated as many fields as possible for these 92 datasets, based on available source information.

6. **Review and proofing.** Members of the CRWG received two opportunities to review the compilation: once with the full list of data sources and fields partially populated, and once with scoring applied and fields almost fully populated. ERG incorporated the feedback received. We also incorporated CBPO project team feedback at multiple junctures, and we conducted internal proofing and quality control reviews.

Final Repository Content

We have attached an Excel workbook with revised, edited metadata for the 92 data layers that met the scoring criteria. A "README" tab provides a brief overview for anyone not yet acquainted with the purpose and scope of this project.

Long-Term Maintenance Plan

We want our work to have a lasting effect—which means we want to give the CBPO a product that will not quickly become out of date. ERG took several steps in designing and populating the matrix to make it "evergreen":

- If a dataset appeared to be maintained and updated regularly, we listed the final year of data as "present," rather than listing a specific year, such as "2018." That way, the CBPO will not have to update every individual record with a new timeframe every year. We only recorded a specific end year for datasets that appeared to have a large time lag and/or some uncertainty as to when they will be updated next.
- We tried to minimize the number of explanatory notes that refer to specific dates.
- We attempted to store permanent URLs, rather than a) URLs that point to only a particular vintage of a map or data layer or b) temporary URLs that point to the results of a particular user-generated query. This approach means the link we stored is more likely to work in the future, but it comes with an inherent trade-off as it means the user might have to make a few clicks or query selections to get to the data.

That said, we recognize the inevitability that that some contents could change over time. For example:

- URLs will change as organizations periodically restructure their websites.
- Contacts will change as people retire, move, or take on new duties.
- Some existing data collection and compilation efforts may be discontinued.
- New datasets may become available.

Based on experience with similar products, we suggest the following activities to keep the repository reasonably up to date without an enormous amount of effort:

Action	Frequency	Details
Broken link check	Annually	We are not aware of a link checking service built into Esri Open Data, but there are many third-party products available that can check links and flag any that get redirected or return an error message. ERG frequently uses services called Sitebeam and Xenu, among others. Many of these services are designed to check content on a standard website, not necessarily to crawl through a database, so—depending on how the Esri outputs are structured—the CBPO might have to extract the data into another form to run the link check. In one other project, for example, ERG exported a database to an HTML table on a staging server to enable link checking.
Comprehensive data review	Every 3 to 5 years	We suggest a detailed manual review to verify that each data entry is still accurate. This will be an opportunity to capture any changes in data structure, coverage, resolution, contacts, etc.
Call for new data	Every 3 to 5 years	We suggest asking the CRWG and CBPO staff if they are aware of any datasets that might meet the criteria. By making this request every few years, the CBPO will be able to partially outsource the search for new data. This data call will allow the CBPO to capture new knowledge (new data layers; perspectives from new people) while also reminding potential users that the repository is available to them.
Dynamic collection of user input	Ongoing	We suggest allowing users to suggest additional datasets or corrections. Depending on how much flexibility the CBPO has to design the user interface or customize a landing page, the programming team might be able to add options like “Suggest an additional data source” and “Provide a correction” to a menu of options under “Contact us.” This approach offers a few key benefits: 1) it casts a wider net for ideas, which could lead to a more inclusive product; 2) it provides a mechanism to keep the product current without placing the entire burden on CBPO staff; 3) by positioning the repository as a “living product,” it acknowledges that the product is not perfect and it invites constructive input rather than frustration; and 4) it provides a friendly face that invites collaboration, which is particularly valuable in the Chesapeake region, where complex issues require many stakeholders to come together.

Appendix A: Data Dictionary and Data Entry Guidance

Group	Field	Data rules	Additional instructions
Basic info	ID number	Unique integer value (to serve as a primary key)	
	Dataset name	Open text field	
	Description	Open text field	One-sentence description
	Associated CBP indicator(s)	Text field	Select none, one, or more from the list of completed or partially developed CBP climate change indicators or other Chesapeake Progress indicators. Do not include proposed indicator concepts that do not yet have a commitment to development.
	Corresponding Chesapeake goals and outcomes	Text field	Select none, one, or more from the list of Watershed Agreement goals and outcomes
Data Attributes	Start year	Four-digit year	
	Most recent year	Four-digit year	
	Environmental medium	Check one or more: •Air •Water •Soil •Biota •Ecosystem •Human System •Other	
	Spatial coverage	Check one or more: •Delaware •Maryland •New York •Pennsylvania •Virginia •West Virginia •District of Columbia •Chesapeake watershed •Freshwater tributaries •Tidal regions	"Tidal regions" refers to any waterway in the Chesapeake watershed that is impacted by tides and may contain saltwater. See salinity map at https://www.chesapeakebay.net/what/maps/chesapeake_bay_mean_surface_salinity_fall_1985_2006. The Chesapeake watershed covers all land and water in the region. If a metric covers the whole watershed, it covers each state as well (and the freshwater and tidal regions). Freshwater and tidal regions are only water- or shoreline-related. If a metric covers freshwater tributaries in a single state, check the state name and check freshwater tributaries. If the metric covers freshwater tributaries in multiple states, check all the affected states, freshwater tributaries, and Chesapeake watershed. If a metric covers just land area, but covers it

Group	Field	Data rules	Additional instructions
			over multiple states (e.g., precipitation), check the states and check Chesapeake watershed. For metrics that impact just tidal regions, do not check Chesapeake watershed. The spatial coverage fields should be checked only for areas relevant to the Chesapeake Bay watershed. In some cases, national or global datasets may have data for a particular state that were not collected within the Chesapeake Bay watershed, such that the state data from that dataset are not relevant. The spatial coverage fields should be checked only for areas relevant to the Chesapeake Bay watershed. In some cases, national or global datasets may have data for a particular state that were not collected within the Chesapeake Bay watershed, such that the state data from that dataset are not relevant. For example, New York does not have coastline within the Chesapeake Bay watershed. As a result, sea level data from New York are not applicable, and New York should not be checked under spatial coverage for the sea level datasets. Similarly, we could imagine a land-based weather phenomenon measured only at the state capital for each state. In this case, West Virginia would not be checked off, because Charleston is not within the Chesapeake watershed.
	Spatial aggregation	Check one or more: •Individual sites •Spatial averages •Grid or raster •Other	
	Spatial details (e.g., raster resolution)	Open text field	

Group	Field	Data rules	Additional instructions
	Temporal resolution	Check one or more: •Sub-daily •Daily •Weekly •Monthly •Other sub-annually •Annually •Less frequently than annually •Irregular •Long-term trend analysis •Unknown	For temporal resolution, select the time period(s) closest to those available from the source link. For example, if a link provides monthly and annual data, check both monthly and annually under temporal resolution. Note that the temporal resolution should reflect the resolution of the data in the layer we are cataloguing, not necessarily the resolution of original data collection. For example, if temperature data are collected every 10 minutes but are provided as monthly or annual averages, we would check monthly/annual instead of sub-daily.
	Temporal details	Open text field	
	Units	Open text field	
	Data collection method	Open text field	
	Notes about data attributes (e.g., limitations, discontinuities)	Open text field (long)	
Data Source	Publishing organization	Open text field	
	Publishing organization type	Check one or more: •Chesapeake Bay Program •Government (federal) •Government (state) •Government (other) •Academic •Non-governmental organization •Commercial •Other	
	Contact for data collection and analysis (name, email, phone)	Open text field	
	Contact for data access (name, email, phone)	Open text field	
	Associated publications	Open text field (long)	If possible, it would be nice if the final database allows citations to be stored as individual records.
	Notes about data source	Open text field (long)	

Group	Field	Data rules	Additional instructions
Maintenance and Acquisition	Frequency of data updates	Check one or more: •Sub-daily •Daily •Weekly •Monthly •Other sub-annually •Annually •Less frequently than annually •Irregular •Unknown	
	Likelihood of continued updates	Check one: •High •Moderate •Low •None (e.g., program officially discontinued)	
	Data update notes	Open text field	
	File format	Open text field	
	Geospatial package available	Check one: •Yes •No	
	GIS file type	Check one or more: •Raster •Vector (point) •Vector (polygon) •Vector (line)	
	GIS projection	Open text field	
	GIS spatial extent (bounding box)	Open text field	
	Primary URL for access	URL format	Default “none” if we know it's none.
	Access restrictions	Open text field	Default “none” if we know it's none.
	Usage restrictions (e.g., permissions, limits to interpretation)	Open text field	Default “none” if we know it's none.
	Timeframe readily available (if different from overall timeframe of data)	Open text field	Identify cases where only part of the timeframe is readily available.
	Secondary URL for GIS access (if different from primary URL)	URL format	
	Notes about data acquisition	Open text field (long)	

Appendix B: Criteria Scoring Approach

For each data layer in the matrix, ERG assigned a high (H), moderate (M), or low (L) score for each of the four criteria. We applied the scores as followed:

Criterion 1 Publicly Accessible Data

H – All data (past and present) are readily available for download from website at no charge
M – Current data are available for download from website at no charge, but at least some historical data must be obtained through other methods
L – Data are only available by contacting someone or paying a fee

Criterion 2 Reasonable Expectation of Future Updates

H – Has "High" recorded in the Likelihood of Continued Updates field
M – Has "Medium" recorded in the Likelihood of Continued Updates field
L – Has "Low" recorded in the Likelihood of Continued Updates field

Criterion 3 Credible Source

H – Federal or state government agency (including Chesapeake Bay Program); academic or other source with peer-reviewed methods and documented QA/QC protocols (where applicable, recognizing that administrative compilations do not require the same standard as scientific measurements)
L – Other

Criterion 4 Unique Value

H – Dataset meets the following conditions:

- Requires no additional processing
- Will not result in duplication (i.e., one dataset derived from another dataset, both listed in this repository)
- Provides useful information that relates directly to the Chesapeake Bay climate resiliency goal

M – Dataset meets the following conditions:

- Requires no additional processing
- May result in duplication as described above, but provides additional information (trend analysis, etc.) or a unique way of characterizing the data
- Provides at least somewhat useful information that relates directly to the Chesapeake Bay climate resiliency goal

L – Dataset has one or more of the following limitations:

- Requires much additional processing
- May result in duplication as described above, without characterizing the data in a uniquely useful way
- Provides less complete spatial or temporal coverage than another otherwise comparable dataset, without other uniquely redeeming attributes
- Does not provide useful information that relates directly to the Chesapeake Bay climate resiliency goal (e.g., a topic only tangentially related to climate change)

We elected to keep any data layer that had "H"s or "M"s in all four fields. This meant we excluded any data layer that had an "L" in any field.

Appendix C: Data Layers Excluded Based on Criteria Scoring

Exclusion should not be implied to represent a negative judgment about data quality or utility. Plenty of solid, credible, highly valuable data sources are listed here. Exclusion simply means a dataset did not meet all four criteria for inclusion in this particular public-facing, web-based catalog.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
MD DNR and VIMS Long-Term pCO_2 in Water Monitoring Data	http://datahub.chesapeakebay.net/	L	H	H	H	Excluded due to limited data availability. Although this variable is reportedly available, it does not appear in the dropdown list of available variables when the user follows what seems to be the correct query parameters. It is unclear how a user could obtain data. The repository does include other acidity-related data layers.
CBIBS/NOAA Sea Nettle Probability Data	https://buoybay.noaa.gov/observations/data-download	H	H	H	L	Excluded because it is derived from another dataset that is already included in this compendium. Also, a proxy for salinity is not needed because we already have direct measurements from the same source. Some interviewees have raised questions about how accurate and useful this particular dataset actually is.
USGS River Sediment Input Monitoring Data	https://cbrim.er.usgs.gov/	H	H	H	L	Excluded because it is not primarily connected to climate change. While climate-related conditions may affect sediment, sediment is already well tracked as a water quality issue.
Land Subsidence: Merged Data Analysis	https://pubs.usgs.gov/circ/1392/	L	L	H	H	Excluded because it appears to be a one-time study, and full source data do not appear to be readily available to the public.
USGS Total Phosphorus Loads	https://cbrim.er.usgs.gov/	H	H	H	L	Excluded because it is not primarily connected to climate change. While climate-related conditions may affect phosphorus loads, this topic is already well tracked as a water quality issue.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
MD DNR and VIMS Phosphorus Concen-tration Data	http://datahub.chesapeakebay.net/	H	H	H	L	Excluded because it is not primarily connected to climate change. While climate-related conditions may affect phosphorus loads, this topic is already well tracked as a water quality issue.
CBNERR Total Precipitation Data	http://www.chesapeakedata.com/changingchesapeake/	M	L	H	L	Excluded because the key climate-related product in question--an analysis of change over time-- appears to be a one-time study without a clear structure for future updates. The public website does not provide access to the numbers shown in the graphics. Underlying CBNERR site measurements are available to the public and have already been captured in other sources (such as the Chesapeake Data Hub) that are included in the repository. Precipitation data are available from other sources that cover the whole region over a longer timeframe.
CBNERR Tropical Nights Air Temperature Data	http://www.chesapeakedata.com/changingchesapeake/	M	L	H	L	Excluded because the key climate-related product in question--an analysis of change over time-- appears to be a one-time study without a clear structure for future updates. The public website does not provide access to the numbers shown in the graphics. Underlying CBNERR site measurements are available to the public and have already been captured in other sources (such as the Chesapeake Data Hub) that are included in the repository. Temperature extremes data are available from other sources that cover the whole region over a longer timeframe.
NASA Cyano-bacteria Blooms Remote Sensing Data		L	H	H	H	Excluded because we could not identify a link with publicly available data. This product may still be in a pilot phase.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
NOAA Temperature Data for Fiddler Crab Emergence	https://www.ncdc.noaa.gov/cag/	H	H	H	L	Excluded because the data source is just a general temperature dataset, which we have already captured in another row of the repository. We did not find an ongoing data compilation effort unique to fiddler crabs.
MAPS Netting Survey Data	https://www.birdpop.org/pages/mapsOnDemandAnalysis.php	L	H	H	H	Excluded because data are not readily accessible to the public.
Center for Conservation Biology Yellow-Crowned Night-Heron Data	https://www.ccbirds.org/maps/#waterbirds2003%20(2003,%202008,%202013	L	M	H	M	Excluded because data are not readily accessible to the public.
CBPO Volume of Discharge Data		L	n/a			Excluded because we could not identify a link with publicly available data. This product appears to be an internal agency compilation.
CBNERR Weather Station Length of Growing Season Observations	http://www.chesapeakedata.com/changingchesapeake/	L	L	H	L	Excluded because the key climate-related product in question--an analysis of change over time-- appears to be a one-time study without a clear structure for future updates. The public website does not provide access to the numbers shown in the graphics. Underlying CBNERR site measurements are available to the public and have already been captured in other sources (such as the Chesapeake Data Hub) that are included in the repository. Growing season data are available from other sources that cover the whole region over a longer timeframe.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
Cornell Lab of Ornithology eBird Citizen Science Observations	http://ebird.org/ebird/explore	H	H	L	M	Excluded because of concerns about credibility of a crowdsourced dataset based on observations of opportunity, not a sample/survey design. If users are looking for data to support an analysis of status or trends re: bird population health, this source is arguably not quite defensible enough to point to.
CBNERR-MD Marsh Bird Monitoring Survey	http://www.dnr.state.md.us/waters/cbnerr/Pages/monmarshbirds.aspx	L		H		Excluded because data are not readily accessible to the public.
Center for Conservation Biology VA Colonial Waterbird Survey	http://www.ccbirds.org/maps/#waterbirds2003 (2003, 2008, 2013)	L		L		Excluded because data are not readily accessible to the public. Data are released to selected users.
Water Column Vibrio Measure of Virulence Markers	http://datahub.chesapeakebay.net/	L	H	H	M	Excluded due to limited data availability. Although this variable is reportedly available, it does not appear in the dropdown list of available variables when the user follows what seems to be the correct query parameters. It's unclear how a user could obtain data.
U.S. FWS Storm Surge Attenuation Potential Data	http://hiscentral.cuahsi.org/pub_network.aspx?n=5572	L		H		Excluded due to limited data availability. A website provides information about the dataset, but a method to download complete data from a public website was not readily apparent. Also, the data appear to be associated with a particular publication, and long-term data collection is unclear.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
MD DNR and TNC Marsh Health Remote Sensing Data		L		H		Excluded due to limited data availability. We did not find a way to obtain data on the web.
NOAA Extent of Living Shoreline Projects	https://www.habitatblueprint.noaa.gov/storymap/ls/index.html#	H	M	H	L	Excluded because of low value added. This resource is essentially a photo gallery attached to a basemap. It is not clear whether this is a complete accounting of living shoreline projects. One might assume that it will be updated, but this is not explicitly guaranteed.
CBNERR/ Sentinel Site Cooperative Surface Elevation Data	http://chesapeakebayssc.org/maps/	L	M	H	H	Excluded due to limited data availability. Users must assemble data by contacting multiple organizations, some of whom do not share their data publicly until they have published their own articles that analyze the data. Also, long-term funding for continued data collection is uncertain.
FEMA Total Exposure in Floodplain Loss Estimation	https://msc.fema.gov/portal/advanceSearch#searchresultsanchor	L	M	H	H	Excluded because this appears to be a one-time study that has not yet been operationalized.
EPA Region 3 Location of Combined Sewer Overflow Outfalls	https://edg.epa.gov/metadata/catalog/search/resource/details.page?uuid=%7B1098AA9B-8400-43C3-AF90-3620D1119BD7%7D	H	L	H	H	Excluded because the public-facing product appears to be a one-time map that does not have a routine in place for updates.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
NERRs Number of Frost Days	http://www.chesapeakedata.com/changingchesapeake/	L		H		Excluded because the key climate-related product in question--an analysis of change over time-- appears to be a one-time study without a clear structure for future updates. The public website does not provide access to the numbers shown in the graphics. Underlying CBNERR site measurements are available to the public and have already been captured in other sources (such as the Chesapeake Data Hub) that are included in the repository.
NOAA Cooperative Observer Program Total Snowfall Data	https://www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/cooperative-observer-network-coop	H	H	H	L	Excluded because of low value added. These data are extremely "raw" and would require extensive statistical processing to be useful for climate analysis. The repository already includes a more public-friendly analysis of snowfall data.
NOAA Global Historical Climatology Network Precipitation Data	ftp://ftp.ncdc.noaa.gov/pub/data/ghcn/daily/	H	H	H	L	Excluded because of low value added. These data are extremely "raw" and would require extensive statistical processing to be useful for climate analysis.
NOAA CO-OPS Currents Data	https://tidesandcurrents.noaa.gov/	M	H	H	L	Excluded because of low value added and limited availability. The public dataset provides real-time data but not historical data that would inform climate change analysis. A user would probably need to do extensive programming to make much use of this dataset.
Plant Species Diversity Data	http://ecotope.org/anthromes/biodiversity/plants/data/	H	L	H		Excluded because this appears to be a one-time study that has not yet been operationalized. The data release was associated with a particular publication.

Dataset	Primary URL	Criteria scoring				Rationale for exclusion
		1. Publicly accessible data	2. Reasonable expectation of future updates	3. Credible source	4. Unique value	
CDC West Nile Virus Disease Cases	https://www.cdc.gov/westnile/statsmaps/cummapsdata.html	H	H	H	L	Excluded because of duplication. An EPA indicator reports the same numbers plus additional analysis. It is included in the repository.
Projected Change in Potential Evapo-transpiration		L		H	H	Excluded due to limited data availability. Data were processed internally by the CBP modeling team and are not available in a public location to which this repository can link.