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Government and Online Data: Creation, Access, Preservation

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Government and Online Data: Creation, Access, Preservation



// Census.gov / Data / Data Tools / Census Business Builder (CBB)

NOTICE: Due to a lapse in federal funding portions of this website are not being updated. Learn more.

Data

Rick Mikulski, Portland State University
Online Northwest 3/29/2019
rmm8@pdx.edu

Abstract

From the 1790 Census to the present, the US government has been a major user, producer, and distributor of data. Through its agencies and departments, it creates data; through funding, grants, and data sharing mandates, it makes research data accessible; through the FDLP and various agency platforms, it circulates and stores data online. This presentation discusses the implications of Government's role in data creation, online access, and preservation. What are the potential strengths and weaknesses of this relationship, and how can librarians prepare for the future of data creation, preservation, and access? Special attention given to: Federal Data Mandates; Online Sources of Government Data; Challenges to Preservation and Access.

Overview: Government & Data

- History of relationship between government and Data creation/curation.
- What this relationship means for researchers and librarians.
- Challenges this relationship poses for preservation.
- The role of librarians in this relationship



Search

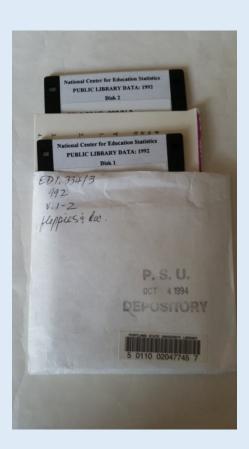


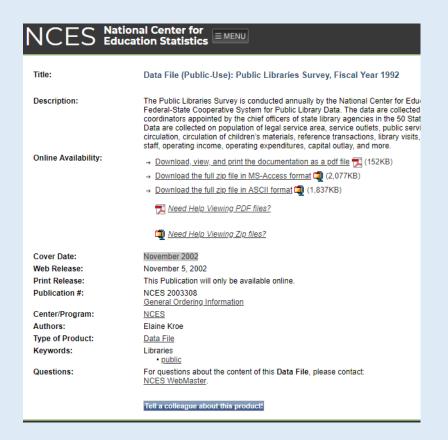
Due to a lapse in appropriations, the majority of USGS websites may not be up to date and may not reflect current conditions. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be updated with limited support. Additionally, USGS will not be able to respond to inquiries until appropriations are enacted. For more information, please see www.doi.gov/shutdown

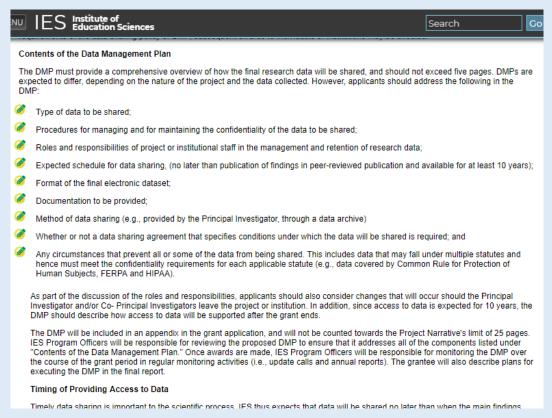
Publications

Organic Waste Compounds as Contaminants in nmary of Estimated Water Use in the United States Milwaukee-Area Streams

Thinking about the relationship







There is no going back.

Ticket closed by Ed Hill.

On Mar 04, 2019 @ 01:41 pm, Ed Hill wrote:

Ticket closed: Set up a Linux VM, installed DOSBox. Mounted the USB disc drive in the Linux VM (Virtualbox).

Made disc images of the floppy discs with `dd bs=512 count=2880 if=/dev/fd0 out=/home/ed/disc1.img status=progress`

Made empty directory and mounted disc 1 with `mount -o loop disc1.img /home/ed/install`.

Made empty directory for dosbox data.

In Dosbox mounted data directory to f: with `mount f /home/ed/dosboxdata` Mounted disc image to a: with `mount a /home/ed/install -floppy`

When it asks, for disc 2, unmount disc 1 with `umount ~/install` and mount disc2 with same command as above.

Resume install.

Once install is complete, Excel should be able to open database files and Word should be able to open WordPerfect files.

For a full-on version of this, you would have something like:

- A (preferably Linux, to my mind) station with a floppy drive to make disk images of the floppies. Each disk only takes a couple minutes to image. Ideally this would also involve checking the files in the image for bit-level accuracy. These images would be duplicated to an archive and a copy for processing. Ideally, if you were doing this for reals real, you would have a forensic hardware block in place so that you couldn't accidentally overwrite the data on the disks, but that's not *strictly* necessary.
- A (again, preferably Linux) station with Dosbox. The workflow for multi-disk installs would be:
- 1 Create a directory in Linux for dosbox data
- 2 Create a directory in Linux to mount disk images. Mount image 1.
- 3 In Dosbox, mount the data directory; mount the disk directory as -t floppy
- 4 Change to the disk directory and initiate install
- 5 For each requested disk image change, in Linux unmount the current disk and mount the next disk to the same Linux directory.
 - 6 Repeat 5 as needed until fully installed.

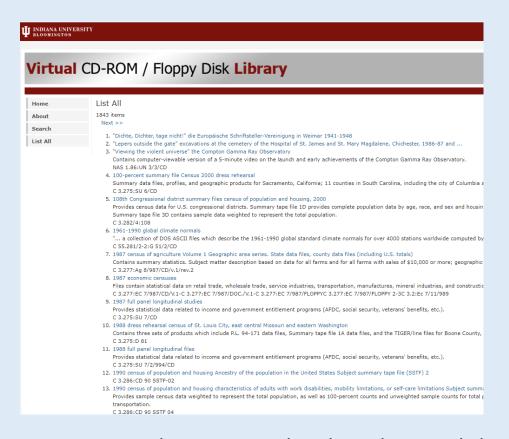
A [brief] history of Government & Data

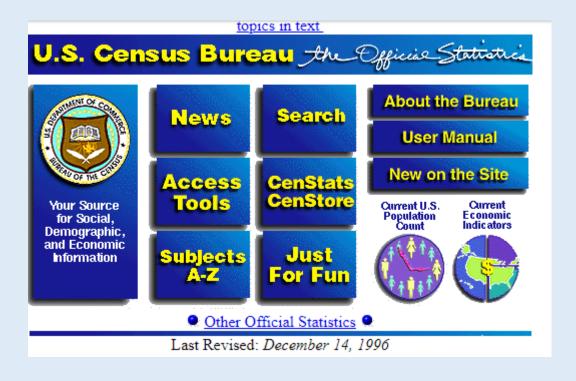
The Return for SOUTH CAROLINA having been made fince the foregoing Schedule was originally printed, the whole Enumeration is here given complete, except for the N. Western Territory, of which no Return has yet been published.

DISTICTS	Freewhite Male of 16 years and up- wards, including heads of families.	Free whiteMales under fixteen years.	Free white Fe- males, including beads of families.	All other free fer- Sons.	Slaves.	Total.
Vermont	22435		40505	255	16	85539
N. Hampsbire	36086	34851	70160		158	141885 .
Maine	24384	24748	46870		NONE	96540
Masachusetts	95453	87289			NONE	378787
Rhode Island	16019	15799	32652			
Connecticut	60523		117448	2808		237946
New York	83700					340120
New Jersey	45251	41416				184139
Pennsylvania	110788		206363			434373
Delaware	11783	12143	22384			59094
Maryland	55915	51339				319728
Virginia						747610
Kentucky	15154	17057	28922			73677
N. Carolina	69988	77506				393751
S. Carolina	35576	37722	66880			249973
Georgia	13103	14044	25739	398	29204	82548
	807094	791850	1541263	59150	694280	3893635
Total number of Inhabitants of the United States exclusive of S. Western and N. Territory.	Free white Males of 21 years and up-	Free Maler under 21 years of age.	Free white	All other Ver-	Slaves.	Total
S.W. territory N. Ditto	6271	10277	15365	361	3417	35691



A [brief] history of Government & Data

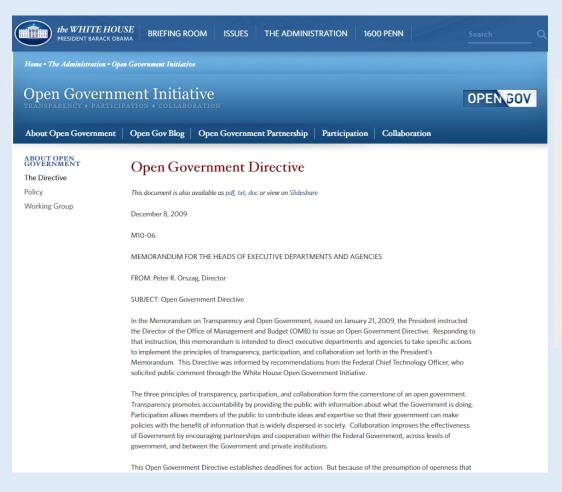




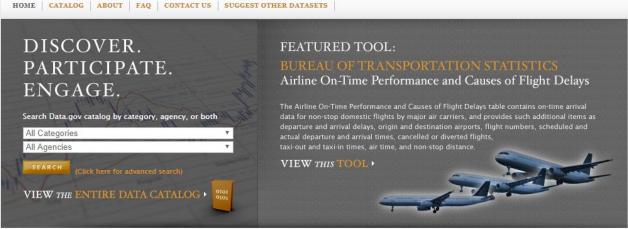
Between 1995 and 2002, GPO distributed 4,890 disks.

-Cruse, Patricia, Charles Eckman, John Kunze, and Heather Christenson. 2003. Web-Based Government Information: Evaluating Solutions for Capture, Curation, and Preservation. An Andrew W. Mellon Funded Initiative. Berkeley, CA:: California Digital Library. http://www.cdlib.org/services/uc3/docs/Web-based archiving mellon Final.pdf.

2009 Open Government Directive & Data.gov



DATA.GOV



Data.gov is launched in 2009 as an informal partnership with various agencies. Beings with 47 datasets.
As of 3/28/19 there are 236,345.

2013 Memorandum

EXECUTIVE OFFICE OF THE PRESIDENT OFFICE OF SCIENCE AND TECHNOLOGY POLICY

WASHINGTON, D.C. 20502

February 22, 2013

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

John P. Holdren FROM:

SUBJECT: Increasing Access to the Results of Federally Funded Scientific Research

Policy Principles

The Administration is committed to ensuring that, to the greatest extent and with the fewest constraints possible and consistent with law and the objectives set out below, the direct results of federally funded scientific research are made available to and useful for the public, industry, and the scientific community. Such results include peer-reviewed publications and digital data.

Scientific research supported by the Federal Government catalyzes innovative breakthroughs that drive our economy. The results of that research become the grist for new insights and are assets for progress in areas such as health, energy, the environment, agriculture, and national security.

Access to digital data sets resulting from federally funded research allows companies to focus resources and efforts on understanding and exploiting discoveries. For example, open weather data underpins the forecasting industry, and making genome sequences publicly available has

"The Office of Science and Technology Policy (OSTP) hereby directs each Federal agency with over \$100 million in annual conduct of research and development expenditures to develop a plan to support increased public access to the results of research funded by the Federal Government."

Department of Agriculture, Department of Commerce, Department of Defense, Department of Education, Department of Energy, Department of Health & Human Services, Department of Transportation, Department of Veterans Affairs, Environmental Protection Agency, National Aeronautics & Space Administration, National Science Foundation, Office of the Director of National Intelligence (ODNI), Smithsonian Institution, US Agency for International Development, **US Geological Survey**

Thorny Issues

Public Data vs. Open Data

- "Public" can be requested or obtained.
- "Open" is readily accessible and should be machine readable.

Federal Data Vs Federally-funded Data

- -"Federal Data" is produced/collected by the government.
- -"Federally-funded Data" is *final research data* produced in a funded study.

Terminology

- "Final Research Data," "timely," "reasonable cost" not defined.

Data Management Plans

- b) Ensure that all extramural researchers receiving Federal grants and contracts for scientific research and intramural researchers develop data management plans, as appropriate, describing how they will provide for long-term preservation of, and access to, scientific data in digital formats resulting from federally funded research, or explaining why long-term preservation and access cannot be justified;
- c) Allow the inclusion of appropriate costs for data management and access in proposals for Federal funding for scientific research;
- d) Ensure appropriate evaluation of the merits of submitted data management plans;
- e) Include mechanisms to ensure that intramural and extramural researchers comply with data management plans and policies;
- f) Promote the deposit of data in publicly accessible databases, where appropriate and available;
- g) Encourage cooperation with the private sector to improve data access and compatibility, including through the formation of public-private partnerships with foundations and other research funding organizations;
- h) Develop approaches for identifying and providing appropriate attribution to scientific data sets that are made available under the plan;

H.R.4174 - Foundations for Evidence-Based Policymaking Act of 2017 (signed 1/14/19)

Summary: H.R.4174 — 115th Congress (2017-2018)

All Information (Except Text)



There is one summary for H.R.4174. Bill summaries are authored by CRS.

Shown Here:

Introduced in House (10/31/2017)

Foundations for Evidence-Based Policymaking Act of 2017

This bill requires departments and agencies identified in the Chief Financial Officers Act to submit annually to the Office of Management and Budget (OMB) and Congress a plan for identifying and addressing policy questions relevant to the programs, policies, and regulations of such departments and agencies. The plan must include: (1) a list of policy-relevant questions for developing evidence to support policymaking, and (2) a list of data for facilitating the use of evidence in policymaking.

The OMB shall consolidate such plans into a unified evidence building plan.

The bill establishes an Interagency Council on Evaluation Policy to assist the OMB in supporting government-wide evaluation activities and policies. The bill defines "evaluation" to mean an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency.

Each department or agency shall designate a Chief Evaluation Officer to coordinate evidence-building activities and an official with statistical expertise to advise on statistical policy, techniques, and procedures.

The OMB shall establish an Advisory Committee on Data for Evidence Building to advise on expanding access to and use of federal data for evidence building.

Open, Public, Electronic, and Necessary Government Data Act or the OPEN Government Data Act

This bill requires open government data assets to be published as machine-readable data.

Each agency shall: (1) develop and maintain a comprehensive data inventory for all data assets created by or collected by the agency, and (2) designate a Chief Data Officer who shall be responsible for lifecycle data management and other specified functions.

The bill establishes in the OMB a Chief Data Officer Council for establishing government-wide best practices for the use, protection, dissemination, and generation of data and for promoting data sharing agreements among agencies.

Overall Historical Trend

- Government has produced and collected data for centuries.
- Government has Computerized their data since the mid 20th century.
- Electronic government data circulated physically after 1980s via FDLP.
- Government data widely accessible online by late 90s
- Government data slowly centralized beginning in 2009.
- Government began setting data standards in 2013 through funding.
- Government requiring agency data to be machine readable in 2019.

Part II

What does this relationship mean for librarians?

- Government agencies produce incredible amounts of data, which our users want/need to access.
- This centralization has resulted in an irreversible dependence.
- Government funding requirements is slowly setting standards.
- These standards are increasingly making librarians key to grant funding, as we assist with DMPs and archiving.

It is within this environment that Librarians must...

- 1) Provide access to data.
- 2) Work to preserve government data.
- 3) Assist researchers in preserving their own data.

Value

Assistant Librarian - Data Management

Assistant/Associate Librarian - Social Sciences and Data Services

Associate Librarian, Data Management Services

Asst/Assoc/Full Professor of Data Science

BUSINESS & DATA ANALYSIS LIBRARIAN

Business and Data Reference Librarian

Business, Economics, and Data Access Librarian

CLIR POSTDOCTORAL FELLOWSHIP IN DATA CURATION FOR THE SCIENCES AND SOCIAL SCIENCES

Data & Evaluation Coordinator

Data Acquisitions Librarian (Knowledge Analyst) - 21074

Data Analyst/Curator, Senior

Data Analytics & Insights Director

Data and Digital Scholarship Librarian

Data and Research Support Specialist, Strategy Unit,

Data Architect, Senior

Data Curation Librarian

Data Curation Librarian

Data Curation Network Project Coordinator (UL392)

Data Hunter

Data Librarian

Data Librarian

Data Librarian and Assistant/Associate Professor

Data Literacy Librarian

Data Management Analyst 2

Data Science Capability Lead

Data Science Specialization

Data Services and Digital Scholarship Librarian

Data Services Librarian / R98111

Data Services Specialist

Data Services Specialist

Data Visualization/Lab Manager

Data Wrangler

Director of Princeton Research Data Service

Enterprise Data Management Project Manager

Geospatial Data Services Postdoctoral Fellowship

Geospatial/Data Visualization Librarian

Head Librarian, Data & Assessment Services

IT Systems/Data Analyst

Librarian - Data Management (S01401P)

Librarian 2/Head of Cataloging and Metadata

Librarian for Finance, Accounting, & Business Data

Librarian for Research Data Management & Reproducibility

Librarian for Research Data Management and Reproducibility

Library Data Analyst

Library Data and Repository Analyst

Map and Geospatial Data Librarian

Metadata & Linked Data Strategist

Metadata & Linked Data Strategist

Open Source Data Scientist

Reference/Database Librarian

Research Data Librarian

Research Data Management Librarian

Research Data Management Librarian

Research Data Management Librarian

Research Data Specialist (RDS)

Research Data Specialist (RDS)

Science & Engineering Data & Information Specialist

Sciences Data Librarian

Senior Manager for Data Analytics - Public Library

Social Science Data Curator and GIS Librarian

Social Sciences and Data Librarian

Social Sciences Data and Sociology Librarian

Spatial Data Science Librarian

Third Party Data Asset Manager

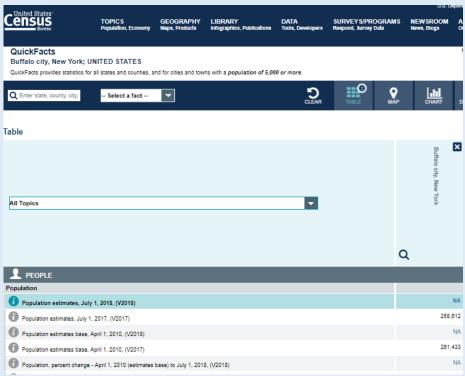
WD171753 - Data Curator - Unstructured Data

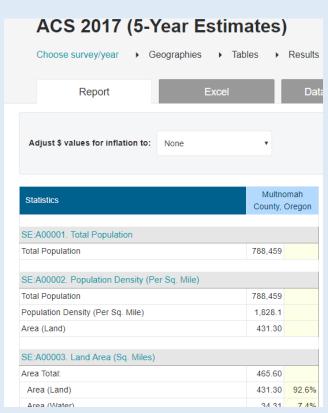
WD177351 - Metadata Engineer, Big Data Solutions

Postings on ALA Joblist with "data" in the title March 2018 – March 2019 (Collected by rmm for future project)

Providing Access to Government Data

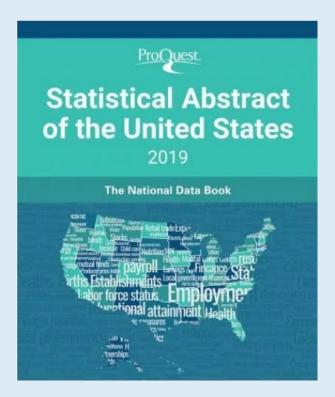




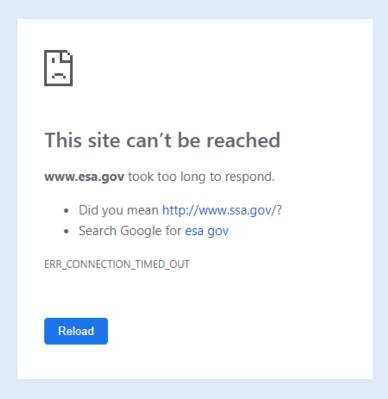


(Social Explorer)

Threats to Access and Preservation







Privatization

Obsolete Technology (or poor planning)

Reliance on Federal Agencies

Efforts to Preserve Federal Data

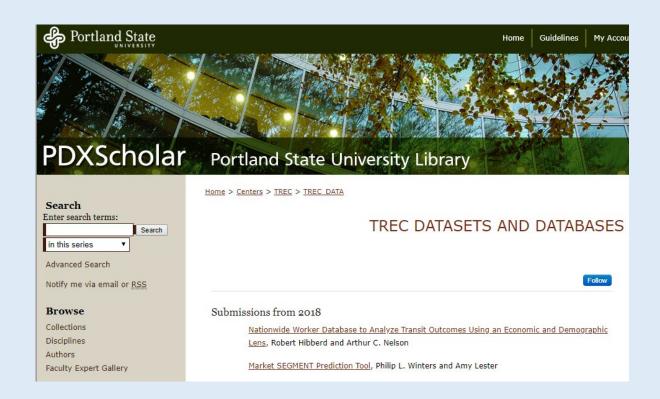


Data Refuge is a community-driven, collaborative project to preserve public climate and environmental data. When we document the many ways diverse communities use data, we can also advocate for future data. We want to hear your data stories!





Preserving Research Data





Library

Home \rightarrow Help & Services \rightarrow Data Management

Data Management

What is Data Management?

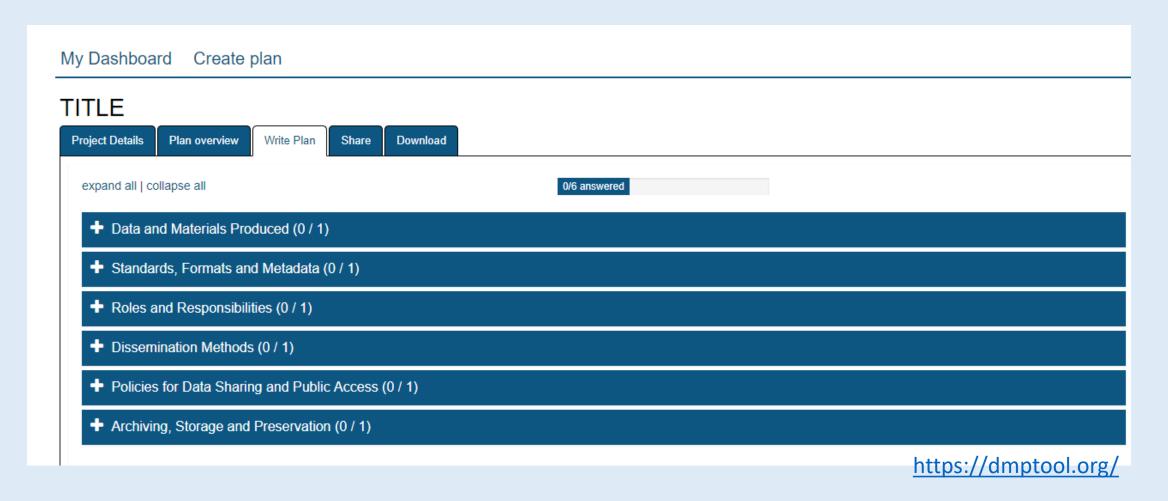
Data management covers all steps in the collection, processing, storing and sharing of research data, including:

- Processing and analyzing your data
- Verifying and documenting your data
- Data formats, naming, and organization
- Data archiving and sharing
- · Ethics and attribution of data

The Library can help you with data management planning and archiving of research data; Research Computing can help with storage and processing needs while you are working on your project.

Data Management Services

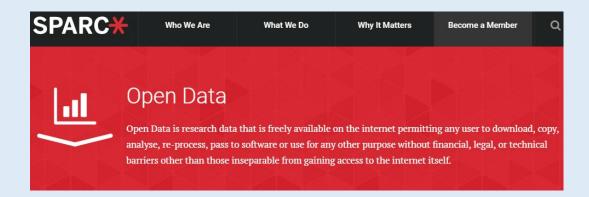
Data Management Planning



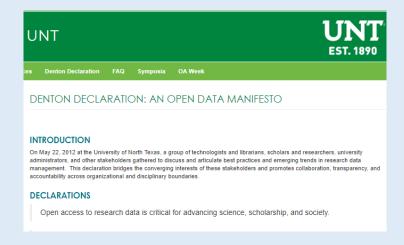
Government policy directly shapes data curation, preservation, and access

- -Through agencies, it produces data, which is increasingly accessible (only!) online.
- -Through funding it is requiring federally-funded data to be freely accessible online.
- -By implementing Data policies and setting the criteria, it is setting the standards.
- -For better or worse, librarians and researchers are largely dependent upon the online infrastructure the government has set in place for continued access.

If we keep active, it'll be fine.

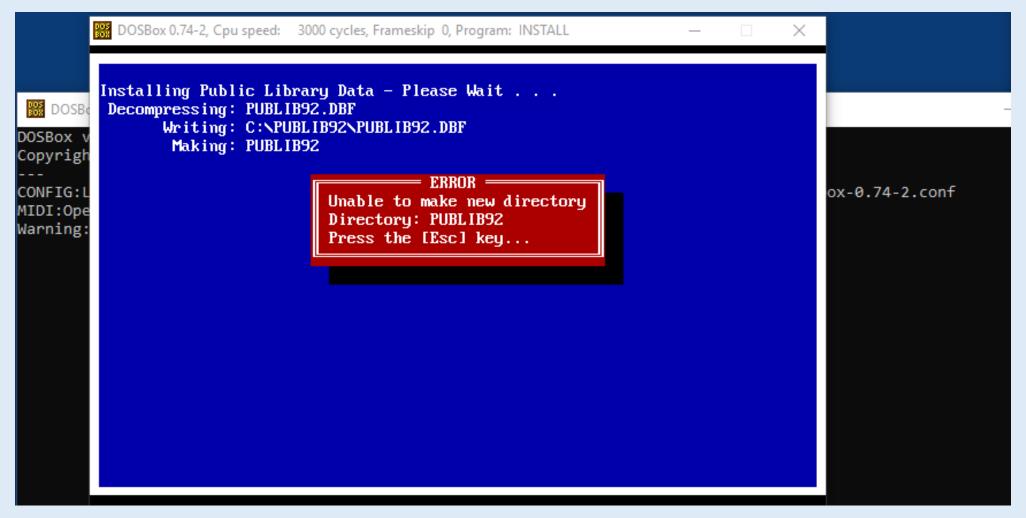








Questions?



Acknowledgements

Special thanks to Ed Hill and Sho Ikeda for their work and patience regarding my floppy disk antics. Colleagues on the Govdoc-L list (Susanne Caro, Jim Jacobs, Brooke Johnson, Julia Cater) similarly assisted in gathering material on archiving outdated FDLP data.

Selected References

https://www.datarefuge.org/

https://webapp1.dlib.indiana.edu/virtual_disk_library/

https://shsulibraryguides.org/c.php?g=622180&p=5782944

http://www.cdlib.org/services/uc3/docs/Web-based archiving mellon Final.pdf

https://library.pdx.edu/services/data-management/

http://guides.library.pdx.edu/data

https://freegovinfo.info/

https://dmptool.org/

https://openaccess.unt.edu/denton-declaration

https://sparcopen.org/open-data/



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