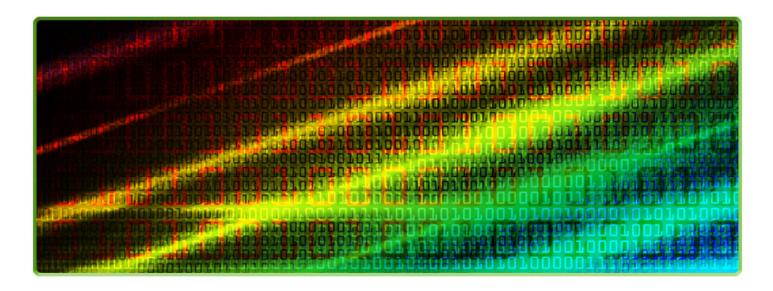
A PARTNER IN SOCIAL SCIENCE RESEARCH

2010-2011 Annual Report



Frontiers of Data Stewardship

Thanks for reading the 2010-2011 ICPSR Annual Report! In these pages, we describe how ICPSR has maintained and strengthened its position as a leader in data curation and stewardship by building new archiving capabilities; expanding and diversifying our data holdings; and providing education and services to help members navigate the everevolving world of data management and technology.

In the process, we continue to explore the Frontiers of Data Stewardship in order to stay at the forefront of this fast-moving field.

Please contact us at netmail@icpsr. umich.edu with any comments or suggestions.

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From the Director George Alter



As this Annual Report describes, many of our activities in the past year highlighted ICPSR's leadership in the emerging field of data stewardship.

In May 2010, the National Science Foundation announced that all NSF grant proposals would include data management plans beginning in January 2011. ICPSR responded by launching "Guidelines for Effective Data"

Management Plans" in October to help researchers meet this new requirement. Our Web site identifies the key features of a data management plan with explanations and examples. The site has been very popular with researchers and research administrators, and a webinar on the subject drew more than 500 participants.

ICPSR played an active role in a range of national and international organizations shaping the future of data stewardship. We became a founding member of the National Digital Stewardship Alliance, a broad coalition that grew out of the Library of Congress's National Digital Information Infrastructure and Preservation Program (NDIIPP). NDIIPP is also the origin of the Data Preservation Alliance for the Social Sciences (Data-PASS), an association formed by ICPSR and five other U.S. social science archives. This year, Data-PASS evolved from a funded project to a permanent partnership, and two more members are preparing to join. In addition, ICPSR works with a wide range of groups that are shaping the future of data archiving, like the Data Documentation Initiative Alliance (DDI) and DataCite.

Our first ever Virtual Data Fair in October 2010 provided

a venue for ICPSR members to learn about non-ICPSR resources, such as the Cultural Policy and the Arts National Data Archive (CPANDA) and the Association of Religion Data Archives.

Leadership in data stewardship requires continuous innovation, and ICPSR is developing and building for the future. To enhance security, we implemented a new Secure Data Environment (SDE). Data processing at ICPSR takes place through a "virtual desktop interface" that is isolated from Internet access. Files enter the SDE in an encrypted form through the Data Deposit Form, and the removal of data from the SDE is strictly limited and audited. This technology will also be used in our Virtual Data Enclave (VDE), which will provide secure remote access to restricted-use data. The VDE will enhance information security by ending distribution of CDs containing confidential data, and it will simplify access to restricted-use data by eliminating the need for a detailed data protection plan.

I am especially excited about ICPSR's participation in the William and Melinda Gates Foundation's "Measures of Effective Teaching" (MET) project, because it will create important new capabilities at ICPSR. ICPSR formed a partnership with colleagues in the University of Michigan's School of Education and the Survey Research Center to archive and disseminate data from the MET Project. In addition to several kinds of quantitative data, the MET Project is collecting thousands of hours of videos of teachers in their classrooms. We have committed to developing a system for sharing access to these important research data while protecting the confidentiality of teachers and students. This system will also be available for archiving videos generated by researchers in other disciplines, who are finding new ways to take advantage of new technologies.



From the Council Chair Ann Wolpert



On behalf of the ICPSR Council, I extend our gratitude and congratulations to George Alter as he completes an outstanding term as interim Director of ICPSR, and assumes his new role as Director of ICPSR.
ICPSR is in excellent hands, and the organization is poised – now more than ever – to make significant contributions to the increasingly interdisciplinary and multimedia world of social science research.

The goal of every ICPSR Council member is to support and strengthen ICPSR in its mission. ICPSR was chartered for the purposes of promoting and facilitating research and instruction in the social sciences and related areas; acquiring, developing, archiving, and disseminating data and documentation for instruction and research; and conducting related instructional programs. During 2010/2011, ICPSR has exhibited growth, vision and strength in all aspects of these purposes. We can thank George Alter and his colleagues for this remarkable performance. ICPSR is well positioned to proudly start a year-long celebration of its first 50 years of progress in October 2011.

The accomplishments of ICPSR throughout its history are indeed extraordinary, beginning with its founding principles. Warren Miller's belief that the political science community in universities needed an effective mechanism for sharing collections of scientific data was a remarkable concept for its time. Scientists today take for granted the principle that sharing research data results in better science and more rapid advances in knowledge. It's easy to forget what a radical notion this was in the early 1960s. Equally radical and brilliant was Miller's idea that political science departments in different universities should band together in a membership consortium to support the costs of archiving and distributing a shared corpus of important political and social science data. From an initial membership of 21 universities, to over 700 members today, ICPSR's membership model continues to thrive.

ICPSR's governance structure has attracted considerable interest in the past year, in the wake of a National Science Foundation requirement for data management plans in NSF grant applications. ICPSR has a uniquely well balanced financial model, combining support from membership, educational offerings, hosted archives, and sponsored research grants. Council members take seriously their responsibilities to ICPSR and the Official Representative community which elects them, and the quality of engagement is impressive. In addition to its fundamental governance roles, the Council provides ICPSR leadership and staff with easy access to the diverse and dynamic environment of academic research and higher education. Talented Council members also stand ready to provide input into ICPSR's strategic planning, and to give feedback on activities such as collection development, marketing, instructional programs, and information technology.

As I complete my term as ICPSR Council member and Chair, I am grateful for the opportunity to have worked with the extraordinary staff and senior leadership of ICPSR. The knowledge and skill these individuals bring to their challenging work, in these especially volatile IT and data management times, is exceptional. Like all Council members, I have learned a great deal from this talented group of scholars and professionals. With interest in data management and archiving rising rapidly at national and international levels, ICPSR has much wisdom and experience to share with public policy makers and is already having an impact on the larger data management and archiving community.

The Institute for Social Research at the University of Michigan has supported the founding principles and membership model of ICPSR for decades. On behalf of the Council, I thank James S. Jackson, current Director of ISR, for his consistent, articulate advocacy for ICPSR. Dr. Jackson's unwavering commitment to securing the best possible leadership for ICPSR has resulted, happily for all, in George Alter's appointment as Director effective in September 2011. With the next five years of leadership assured, ICPSR is now poised to begin 50 more years of innovation and impact in the social sciences. We can be sure the next 50 years will be at least as interesting as the first.



New Initiatives

Bill and Melinda Gates Foundation Measures of Effective Teaching project

Near the end of the fiscal year, ICPSR received word from the Bill and Melinda Gates Foundation that the University of Michigan would receive a two-year, \$1.3 million grant to archive videos and related quantitative data from the foundation's Measures of Effective Teaching (MET) program.

This project provides important new data to analyze various teaching methods and also will allow ICPSR to develop the infrastructure and expertise necessary to archive video material from other sources.

"The videos from the MET project are extremely valuable to education researchers," said George Alter, ICPSR director and Principal Investigator. "And this project represents a great step forward for ICPSR as we develop new capabilities to archive and disseminate emerging types of research data."

The MET project gathered video from the classrooms of more than 3,000 teacher volunteers across the country in the 2009-10 and 2010-11 school years. The videos captured a 360-degree view of the classroom, so that student reactions to the teacher can been viewed. Two groups of researchers will have early access to the data. The initial analysis will be done by the MET research partners who collected and collected the data. The second group is expected to be recipients of grants that will be competitively awarded to use the new MET Database beginning in summer 2012. Authorized data users will be able to securely access the videos through a Web-based streaming service, and quantitative data through a secure virtual data enclave.

Robbin Gonzalez will serve as ICPSR project manager, leading a University of Michigan consortium including the Brandon Center at the School of Education, the Survey Research Center at the Institute for Social Research, and the U-M Libraries.

Data Management Plans

The National Science Foundation's requirement that grant proposals must include data management plans, effective January 2011, focused a great deal of attention on the issue. As a leader in data archiving for nearly five decades, ICPSR was in a unique position to help researchers meet the new mandate.

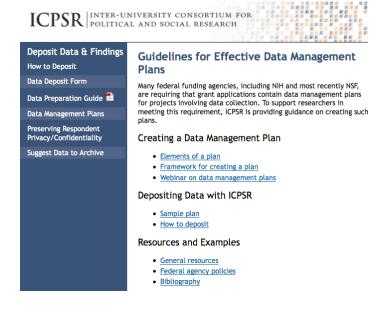
Not only does archiving data with ICPSR help researchers comply with NSF's policy (as detailed in these guidelines), the Consortium is providing numerous educational opportunities for interested data producers.

ICPSR launched a data management plan Web site in October 2010, containing detailed guidelines for writing data management plans, examples, an extensive bibliography and list of other resources available on the topic, and a blog with answers to dozens of questions.

More than 600 people took part in ICPSR's two webinars on data management plans, held in January and February 2011. Director of Data Acquisitions Amy Pienta led the sessions, which covered, among other things:

- Suggested elements of a data management plan
- Examples of DMPs
- · How to designate ICPSR as an Archive in a DMP

Data management plans also were featured in ICPSR's Virtual Data Fair held in November 2010. A session on the topic conducted by Katherine McNeill of MIT was the most popular one in the entire four-day event.



ICPSR INTER-UNIVERSITY CONSORTIUM FOR POLITICAL AND SOCIAL RESEARCH

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New Initiatives (Continued)

Virtual Data Enclave

The Substance Abuse and Mental Health Data Archive and ICPSR's Computer and Network Services (CNS) department, through a contract with the federal Center for Behavioral Health Statistics and Quality (CBHSQ), are developing a Virtual Data Enclave that will allow remote access to restricted-use data for approved researchers.

This new capability will make it easier to access restricted-use data while still protecting the confidentiality of survey respondents. The VDE will provide greater security and simplify the data protection plans required for sensitive data. We expect the VDE to become the preferred system for distribution of data under restricted-use agreements.

To be able to access the VDE, client software is installed on researchers' computers to open a secure portal to the data servers at ICPSR. All data and researcher analyses remain on ICPSR servers until a review by SAMHDA and CBHSQ determines that there is no risk of disclosure of confidential information.

In 2010-2011, SAMHDA and CNS made significant progress on the VDE. Pilot testing with users at three federal agencies accessing the National Survey on Drug Use and Health (NSDUH) through the VDE is set to begin soon.

The analyses at the three agencies illustrate the potential utility of the VDE allowing access to restricted-use data to answer important research questions:

- Researchers at the Division of Epidemiology, Services and Prevention Research, National Institute of Drug Abuse, are analyzing the relationship between marijuana usage and the passage of medical marijuana laws in several states.
- Officials at the Division of Epidemiology, Services and Prevention Research, National Institute of Alcohol Abuse and Alcoholism are researching the impact of alcohol policy on drinking behavior in five states
- The Division of Services and Intervention Research at the National Institute of Mental Health will explore models to predict the effects of economic conditions on distress and depression in the general population.

 Passed on feedback from this testing, the final VDE will.

Based on feedback from this testing, the final VDE will launch in March 2012.

Utilization Reports

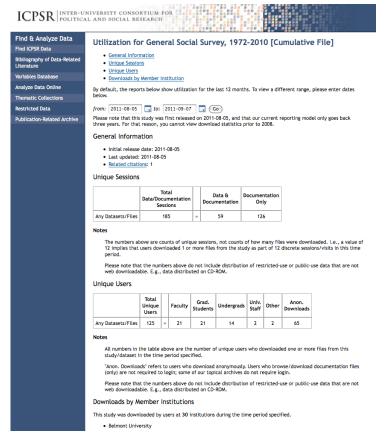
In June 2011, ICPSR began making study-level utilization reports available for every study in our archive, with information on how often data was downloaded and the location of users who download data.

The reports are available from each study's home page by clicking on the "View Study Usage" link. They show the number of unique sessions during which a user downloaded at least one file. Information is also available on how many times the data and documentation were downloaded by unique users.

Information on users' academic status (i.e., faculty, graduate student, or undergraduate, etc.) as well as the institution with which they are affiliated also is available. The specific identities of users, however, are not disclosed.

Usage data in the utilization reports goes back three years.

The reports are meant to help researchers and funders better understand the impact of archiving their data.





Educational Activities

Summer Program

The Summer Program in Quantitative Methods of Social Research enjoyed another banner year in 2011, attracting a record 890 participants. That's an increase of more than 60 over the 2010 session, which also set a record.

The 2011 Program offered 67 courses taught by 68 faculty and 39 teaching assistants.

The Summer Program's primary location is the University of Michigan in Ann Arbor, but it has offered workshops at various external sites throughout the country for many years. For the first time this year, a session was held at the University of California at Berkeley. Other external locations for 2011 workshops were the University of Massachusetts-Amherst; Indiana University, Bloomington; and the University of North Carolina at Chapel Hill.

The 2011 Summer Program included three new four-week workshops:

- Network Analysis
- Applied Multilevel Models
- Causal Inference for the Social Sciences

There also were several new short statistical workshops:

- Mixed Methods
- Panel Data Analysis using SAS and SPSS
- Analysis of Large-Scale Networks
- Doing Bayesian Data Analysis
- Monte Carlo Simulation and Resampling Methods
- Item Response Theory
- Spatial Econometrics.

And one new substantive short course was offered for



the first time in 2011: Evaluating the Impact of Publicly Funded Early Childhood Programs on Children and Families.

In addition, the 2011 Hubert M. Blalock Lecture Series addressed the following topics, either in lectures or roundtable discussions:

- Data Mining
- Latent Class Analysis
- Missing Data: Statistical Analysis of Data with Incomplete Observations
- Statistical Graphics for Visualizing Data
- How to Publish In, and Review Manuscripts For, Professional Journals
- Writing Grant Proposals
- Teaching Statistics: Thoughts and Advice for New Instructors
- TESS and the State of Experimental Research in the Social Sciences
- Basic R: Just Enough for Graphics
- Creating Graphical Displays Using the "lattice" Package

Virtual Data Fair

One of ICPSR's major educational outreach efforts this year was the Virtual Data Fair held in November 2010. Open to ICPSR members and non-members alike, the goal was to have representatives from important social science data organizations answer the questions: "What teaching/data resources are available from the organization?" and "How does the user access those resources?"

Nearly 300 people participated in the event, which consisted of 14 sessions over four days. Each participant viewed an average of 2.4 sessions.

The most popular session was conducted by Katherine McNeill of MIT Libraries on the subject of data management plans.

Some of the other popular topics were:

 America's Most Wanted: Top U.S. Government Data Resources

- International Organizations and Their Data
- Data from the Minnesota Population Center
- Small Data Archives: Pew & CPANDA
- Managing Confidential Data.

Slides and video of every session remain available on our Web site for viewing.

Marketing and Membership Director Linda Detterman organized the event.

Educational Activities (Continued)

Use of Digital Resources by Social Science Faculty

By Lynette Hoelter, Director of Instructional Resources

As a part of two projects funded by the National Science Foundation focusing on data use and quantitative literacy among undergraduate students and faculty, ICPSR staff assisted with the design and implementation of a survey of social science faculty. This survey was based on



a larger data collection effort conducted in 2006 – 2007 with faculty representing all disciplines and from 100 colleges and universities.

The goal of the current project was to better understand the use of digital resources by social science faculty, especially as relating to efforts to strengthen students' quantitative literacy skills. The questionnaire was given (electronically) to almost 3,300 faculty members in sociology, political science, economics, and related social science disciplines who were teaching at schools representing all four of the major Carnegie classifications (Associate's, Bachelor's only, Master's granting, and Research Universities), so that comparisons by discipline and institution type would be possible. Of those, 1,037 faculty members responded. Faculty were asked about the importance of various quantitative skills as learning goals in courses other than research methods and statistics; how much and what type of digital resources they used and the impact on their teaching; important features of digital resources; and barriers to using these resources in class and/or for sharing resources they develop.

Overall, the majority of faculty found understanding links between theory and data (71 percent), identifying or generating appropriate information to answer a research question (64 percent), and making judgments based on quantitative analysis (55 percent) to be moderately important or essential skills for students in non-methods courses. Responses from two groups of faculty differed significantly from the rest, however – economics faculty tended to rate all of the quantitative skills as more important than did faculty in other disciplines, and those teaching at two-year institutions reported that they were less important overall than did faculty at other types of institutions.

When asked about types of resources instructors used (still images/photos, simulations, datasets, learning exercises, videos and animations, and audio recordings), still images or photos were used most frequently (67 percent of faculty at least occasionally used them), followed by videos/animations (60 percent). Online datasets and learning exercises were each used by approximately half of the respondents. Faculty reported downloading materials or bookmarking sites to use in the class and finding materials for students to use in assignments as the primary reasons for using digital resources.

Ease of use and free/open access were cited as the two most important features faculty consider when choosing a resource. This makes resources like the ICPSR Online Learning Center and the SETUPS 2008 or Investigative Community and Social Capital modules especially valuable, at least for those at ICPSR member institutions. Finally, faculty were given a list of organizations or Web sites from which they might find teaching resources related to quantitative literacy, and ICPSR was at the top of the list for both recognition and use of resources from the organization. It seems that slowly but surely, by responding to faculty feedback, ICPSR is making inroads into the arena of undergraduate social science.



Membership

Membership Institution Totals by Category

Туре	Total	Increase
Doctoral Research Extensive	137	-1
Doctoral Research Intensive	44	5
Master's Comprehensive	91	6
B.A. Universities	99	-8
Specialized Institutions	8	-
Associate/Community Colleges	7	-2
US-Based Associates	20	
Canadian Institutions	35	1
Other International Institutions	257	9
Total	698	10

Membership Trends

ICPSR membership increased slightly in FY 2011, led by new international and Master's Comprehensive member institutions.

Web Presence

Our Web site had more than 5.25 million page views in FY 2011 from more than 440,000 unique visitors. ICPSR and the Summer Program are followed by nearly 2,000 people on social media sites.



Financial Reports

ICPSR closed fiscal year 2011 with revenues totaling \$20 million, representing a 4.7 percent increase from fiscal year 2010's total. Membership dues income, totaling \$3.5 million, rose 1.1 percent since 2010 and contributed 18 percent of the organization's total revenue. Sponsored project awards contributed \$10 million and accounted for 50 percent of total revenue. Summer Program and Investment Income revenues

overall expenses were \$19.2 million, a 4.3 percent increase from fiscal year 2010.
The organization closed fiscal year 2011 with a surplus of
\$821,904. As of June 30, 2011, ICPSR maintains a total

fund balance of \$4,983,259.

were \$1.75 million and \$217,000, respectively. ICPSR's

Revenue	
General Fund Transfers	488,147
General Income	5,013,265
Gifts and Grants	9,980,999
Indirect Cost Recovered	2,986,736
Investment Transactions	217,243
Recovery from Rebilled Items	-
Transfers	230,136
Internal Rebills	1,090,043
TOTAL REVENUE	\$20,006,569

Revenue from Membership					
and Grants/Contracts					
Fiscal Year	Membership	Grants/Contracts			
1989	1,654,781	1,413,092			
1990	1,403,297	1,434,630			
1991	1,690,709	1,578,484			
1992	1,481,713	1,583,566			
1993	1,712,031	1,832,865			
1994	1,915,000	2,099,753			
1995	1,969,783	1,893,296			
1996	2,066,499	2,146,822			
1997	2,181,661	2,310,968			
1998	2,258,676	2,742,252			
1999	2,307,856	2,651,291			
2000	2,254,963	2,456,876			
2001	2,835,791	3,358,040			
2002	2,259,161	3,531,002			
2003	2,656,468	4,151,227			
2004	2,666,290	5,289,738			
2005	2,791,442	5,770,366			
2006	2,935,642	6,252,685			
2007	3,093,900	6,776,695			
2008	3,165,587	7,584,089			
2009	3,311,411	8,138,624			
2010	3,465,415	9,849,709			
2011	3,502,368	10,015,225			

Expenses	
Staff Salaries	8,527,996
Fringe Benefits	1,956,557
Consultants	672,557
Respondents/Subjects	-
Stipends	92,070
Student Aid	-
General Expenses	1,088,903
Data Processing	1,104,031
Postage	24,565
Telephone	46,447
Subcontract Under 25K	89,364
Subcontract Over 25K	927,239
Travel/Hosting	552,253
Equipment	850
Transfers	1,087,682
Transfers and Distributions	61,891
Indirect Costs	2,952,260
TOTAL EXPENSES	\$19,184,665



Year in Review

Other highlights of 2010-2011

ICPSR agrees to partnership with Renmin University

In January 2011, a delegation from Renmin University in Beijing visited Ann Arbor and signed a partnership agreement with ICPSR to become a hub for distributing ICPSR data to other institutions in China. Under the agreement, ICPSR also will help Renmin University develop user support capabilities for Chinese-speaking users.



The seven-member Renmin delegation, including Professor Yuan Wei, Senior Vice President of the university and director of its National Survey Research Center, met with ICPSR Director George Alter, General Archive Director Peter Granda, Assistant Director Mary Vardigan, and Director of Marketing and Membership Linda Detterman.

Wei said there is increased attention to sharing research data in China, and that Renmin is essentially creating a new data archive from the ground up.

Alter said developing a relationship with Renmin University was important to ICPSR: "We strongly support their efforts to encourage the social sciences in China, and to build data archiving and analysis facilities for Chinese researchers."

ICPSR also has similar agreements with members in China and Hong Kong, including a federation coordinated by Beijing University.

ICPSR earns Data Seal of Approval

In June 2011, ICPSR became one of the first six data repositories to earn the Data Seal of Approval.

The seal was created by the Data Archiving and Networked Services archive in The Netherlands, and is



overseen by an international board. It is intended to demonstrate that data repositories take appropriate measures to ensure the long-term availability and quality of the data they hold.

The seal is awarded based on an online self-assessment regarding a data repository's adherence to a set of 16 guidelines related to trustworthy data management and stewardship.

The other five repositories receiving the seal were the Archaeology Data Service (United Kingdom); the DANS Electronic Archiving System (Netherlands); the Platform for Archiving CINES (France); the Language Archive of the Max Planck Institute; and the UK Data Archive.

Researchers participate in National Digital Stewardship Alliance

ICPSR is playing an active role in a new data stewardship initiative sponsored by the U.S. Library of Congress.

Several ICPSR researchers attended the first meeting of the National Data Stewardship Alliance in Washington, D.C., in December 2010, and were involved in various working groups leading up to the conference. These working groups continue to meet regularly.

The NDSA, a collaboration between government agencies, educational institutions, non-profits and businesses, is an outgrowth of the National Data Information Infrastructure and Preservation Program (NDIIPP). NDSA's goal is to preserve a distributed national digital collection.

The ICPSR researchers who are part of NDSA working groups include: Peter Granda, director of the General Archive; Digital Preservation Officer Nancy McGovern; Computing & Network Services Director Bryan Beecher; Assistant Director Mary Vardigan; and Research Area Specialist Jared Lyle.

Preparations under way for 50th anniversary celebration

This year, ICPSR staff began preparing for a year-long celebration of ICPSR's 50th anniversary, which will kick off in October at the biennial Official Representatives meeting in Ann Arbor. The event will feature a symposium on "The Next 50 Years of Social Science Data" with an address by Myron Gutmann, Assistant

Year in ReviewOther highlights of 2010-2011 (continued)

Director for Social, Behavioral, and Economic Sciences at the National Science Foundation and discussion with several ICPSR Council members and other prominent figures in the data community.

We are also planning several celebratory receptions at professional associations' annual meetings over the next year, including the American Sociological Association, the American Political Science Association, the Social Science History Association, the American Economic Association, the Population Association of America, and IASSIST.

On the University of Michigan campus, the celebration will include the October 2011 symposium, an open house at the Perry Building in January 2012, and a series of brown-bag lunches for departments within the university that may find ICPSR's services useful.

The events will culminate in June 2012 with a symposium and banquet featuring Nobel laureate and former ICPSR Council member Elinor Ostrom, Arthur F. Bentley Professor of Political Science at Indiana University.



ICPSR secures new projects

Our researchers were awarded several new grants and contracts this year, including:

- An agreement to archive data from the U.S.
 Department of Housing and Urban Development's
 "Moving to Opportunity" (MTO) project. MTO was a demonstration program conducted from 1994-2001 intended to track what happens to very poor families when they move out of subsidized housing in the poorest neighborhoods of five very large American cities. Users may order this collection by completing an application to obtain restricted-use data.
- Second-year funding for Digital Preservation Officer Nancy McGovern to continue her leadership role in the Library of Congress' Digital Preservation Outreach and Education program. McGovern serves as the lead partner in the initiative, developing recommendations based on a survey of training needs within the digital preservation community and a gap analysis of existing continuing education programs.
- A new contract with Abt Associates to provide technical assistance to grantees of the Agency for Healthcare Research and Quality for research on patients with complex combinations of diseases. Amy Pienta, ICPSR Acquisitions Director, is directing the project, in which ICPSR will assist recipients of R21 and R24 grants funded by the American Recovery and Reinvestment Act in creating and disseminating public-access datasets resulting from their research.



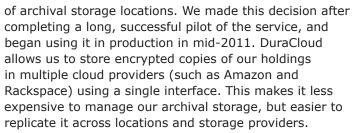


Year in Review The Year in Technology

By Bryan Beecher Director, Computer and Network Services

ICPSR continues our active exploration and adoption of cloud computing technology to augment our content delivery and archival storage capabilities. We have completed a number of interesting projects over the past year.

We have added the DuraCloud hosted service to our collection



We continue to expand our use of Amazon's Elastic Computing Cloud (EC2) and Elastic Block Storage (EBS) as a platform for delivering access services to our broad collection of social science research data and documentation. Rather than buying and managing dedicated hardware for specialized services, our default is to launch these services in Amazon's cloud, scaling the required storage and computing power in response to its needs. This eliminates the potential problems of over- or



under-building a solution, and having no practical way to right-size the solution later. The latest service we have launched in Amazon's cloud is an "IPUMS mirror" that we operate on behalf of the Minnesota Population Center.

And, finally, we have made extensive use of the University of Michigan's own cloud computing resources to stand-up two new services.

The first is our Secure Data Environment (SDE). The SDE is a virtualized, secure computing environment where ICPSR data managers curate social science research data and documentation. The environment has full access to internal tools and common applications (such as SAS, SPSS, and Stata), but does not have access to the Internet, email, or local data connections, such as a USB port on the desktop computer. Content managed within the SDE can be placed into archival storage, and, if desired, published the ICPSR Web site for delivery.

The second is our Virtual Data Enclave (VDE). Like the SDE, VDE is also a virtualized, secure computing environment. But unlike the SDE, which is used by ICPSR staff, the VDE will be used by researchers and analysts to access restricted-use datasets. The actual data never leave ICPSR's secure environment, and the output of any analysis must be submitted for review before it can be downloaded. The VDE is an attractive alternative to sending restricted-use datasets on removable media, such as CD-ROMs, and will be the only access mechanism for a few highly confidential datasets.

For more information and news about ICPSR's use of technology, please see our Tech@ICPSR blog at techaticpsr.blogspot.com.