Using Open Data to Protect the Food Supply:

A Roundtable

with the

U.S. Department of Agriculture

Using Open Data to Protect the Food Supply: A Roundtable with the U.S. Department of Agriculture

Findings and recommendations from a dialogue between USDA and the organizations and experts that use its data.

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Foreword

Generating, analyzing, safeguarding and appropriately disseminating data about America's farms and ranches, rural communities, cutting edge agricultural research, safe food production and handling, nutrition assistance, conservation of natural resources on national forests and working lands, and markets for food, fiber, and fuel, supports USDA's broader mission of advancing American innovation. But, the idea of providing agricultural information freely is hardly new, as we celebrate the 100th anniversary of the Smith-Lever Act of 1914, creating the unique "extension" function in our nation's land grant universities, ensuring that scientific advances reached the farmers who needed them to increase productivity. And, USDA's economic research and reporting has provided generations of farmers and policy makers with a way to turn mountains of data into useful, actionable information.

Still, the amount of data being generated now is greater, as is the technology available to share it effectively. This is leading to a growing interest in making the best possible use of data, converging with a global refocusing on agriculture and food security. If we were going to live up to our mission in this interconnected, digital world, we knew we needed an agency-wide commitment to improve our data delivery and usability on all fronts. That was the spirit in which we hosted the USDA Open Data 500 Roundtable with NYU's GovLab. Gatherings like the Open Data Roundtable are essential to building bridges with the private sector, gaining input and feedback, improving our data infrastructure, and developing a system that will outlast any single Administration. Our goal is to unleash even more government data to help business leaders make the best possible decisions, while creating fertile ground for new business development, especially for new and beginning farmers. The best way to do that was to listen to suggestions from those already using our data – and to get the private sector's guidance on where USDA can unlock the greatest value in our datasets.

We understand the necessity of ensuring that data is easy to find, understand, and access. But, simply making data available is only one half of the open data equation; the other is interoperability – making our data machine readable so it can be mixed with others' datasets to produce new information and insights. As different types of agricultural information become interoperable, insights may follow which could improve yields, climate change resistance, nutritional quality and more. We are working with fellow government agencies and the private sector to improve data dissemination and interoperability. We recognize the urgent need to get this right, and we know that only by listening to the business community, partnering with industry, and collaborating with fellow government agencies, can we best serve our customers and unleash the full power and potential of open data. We share the goals and objectives embodied by the call of the Open Data 500: to deliver data that is valuable to industry and that provides greater economic opportunity for millions of Americans. Working across the public and private sectors, playing a leading role, the USDA will continue to do what we can to provide leadership on advancing innovation.

Krysta Harden
Deputy Secretary of the U.S. Department of Agriculture

Introduction

In June 2014, The Governance Lab (GovLab) at NYU launched a series of Open Data Roundtables to bring together government data providers with data users in the private and non-profit sectors. The goal of the Roundtables is to help make open government data more relevant, accessible, and actionable through structured dialogue. By focusing on the "demand side" of open government data, The GovLab hopes to help agencies prioritize their work on open data more effectively, meet the needs of businesses and other data users more efficiently, and create social and economic value from the government's vast data resources.

On August 1, 2014, The GovLab and the U.S. Department of Agriculture (USDA) co-hosted an Open Data Roundtable in Washington, DC. This Roundtable was coordinated with the Climate Data Initiative, which was launched by the Obama Administration in March 2014 to promote the use of data to fight climate change. Among other issues, the Climate Data Initiative has addressed the climate risk to the food supply and the ways in which data could help food producers and distributors increase "food resilience." The August Roundtable was designed to address food resilience and sustainable agriculture by bringing together government officials, companies, and non-profits in this area.

The USDA Roundtable approached food resilience from two perspectives. First, government data can help experts both in and outside of government plan for long-term adaptation to climate change and risk management. Second, data is needed to plan for disaster preparedness in case of acute food emergencies. USDA and the Climate Data Initiative are now working on data-driven solutions to help farms operate sustainably in the face of climate change, ensure citizens' access to high quality food, promote disaster preparedness and responsiveness, and increase the United States' food resilience overall. The Roundtable brought together representatives from 16 companies, 3 nonprofits and USDA's agencies, as well as representatives from other federal agencies including the National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS), U.S. Department of Treasury, and Social Security Administration (SSA).

During the course of this day-long Roundtable, the participants also discussed a number of topics beyond food resilience that relate to USDA data. This report combines observations and recommendations on all the topics discussed at the event, including some that apply to the U.S. Government data system as a whole.

Deputy Chief Information Officer Joyce Hunter led the Department's planning and engagement with the Open Data Roundtable and participated for the entire day. The attendees heard presentations from Dr. Catherine Woteki, Under Secretary for USDA's Research, Education, and Economics (REE) mission area and the Department's Chief Scientist; Dr. Ann Bartuska, Deputy Under Secretary for REE; Cheryl Cook, Chief Information Officer of USDA; and Erie Meyer, former Senior Advisor to the U.S. Chief Technology Officer in the White House Office of Science and Technology Policy.

This report is being released as a public document with the hope that it will encourage further input, dialogue, and commitments. It encapsulates the recommendations made by USDA's data users who participated in the

Roundtable, describes commitments that USDA has already made in response to the Roundtable, and outlines opportunities for the private sector and civil society organizations to contribute solutions as well.

The report is designed to be of value to:

- The agencies and offices at USDA that collect, analyze, and disseminate data;
- Officials in other government agencies working to improve their agencies' open data capabilities;
- Individuals and organizations who use USDA's open data; and
- Interested members of the media and the public.

As one outcome of this Roundtable, USDA has now expressed the intent to hire the agency's first Chief Data Officer. In addition to serving other audiences, this report can be used as a briefing paper for the incoming Chief Data Officer when that position is filled.

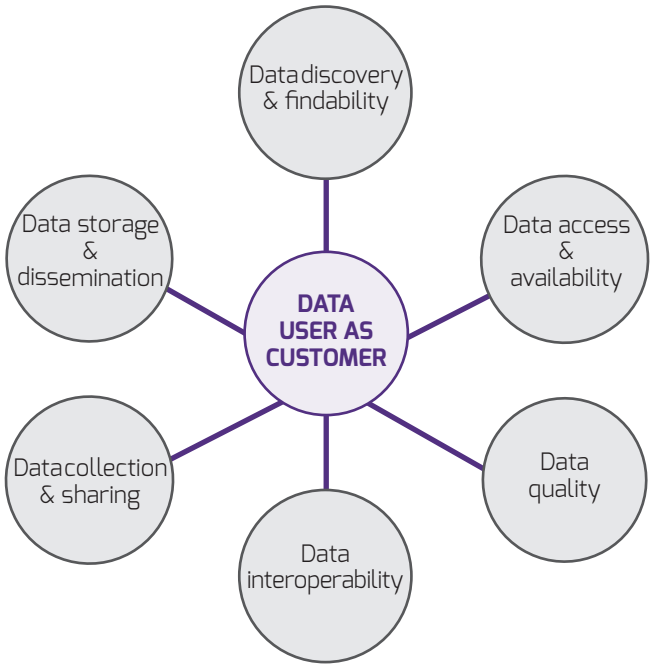
Roundtable Insights and Recommendations

The discussions covered seven key areas where USDA can further develop its open data strategy and increase both USDA and its data users' ability to leverage data to improve food resilience. These areas for improvement mirror the findings of The GovLab's earlier Roundtable with the U.S. Department of Commerce, and may apply to other federal agencies as well. Agencies including USDA have an opportunity to:

- Treat *data users as customers* by engaging with them and getting their input and feedback on a regular basis.
- Make it easier to *discover and find* data – for example, by publishing full inventories of the data that an agency has available.
- Improve *access* to data by providing data in different formats for different users' needs.
- Improve data *quality* by making the data more complete, valid, and accurate.
- Make data *interoperable* – that is, make it easier to combine one dataset with another.
- *Collect* data more frequently, integrate data from more sources, including from other government programs and through public-private collaborations.
- Use new strategies to *store and disseminate* data, including public-private partnerships, to make it more widely available.

This classification of opportunities to improve open data is intended to be both a guide to action and a guide for further research. Beyond the value to be gained from feedback and collaboration among open data stakeholders, The GovLab recognizes the major need for continued research and mapping of the open data ecosystem.

Key areas for improvement



Data Users as Customers

USDA, like other federal agencies, is beginning to think of its data stakeholders as "customers" for their data. This concept is the basis for developing a more user-focused approach to data collection and dissemination. Stakeholder input is critical to achieving food resilience and using USDA data in general for maximum benefit.

Goal

To better identify data users, establish communities of interest and feedback loops, and increase the number and depth of USDA's interactions with its data users.

Desired Impact

To help USDA understand and engage with its stakeholders and better inform its open data strategies.

Recommendations for USDA

USER IDENTIFICATION:

USDA should implement mechanisms to better determine its data users and uses, and create an evidence base for the value of its open data. Suggestions for helping USDA track the organizations (or individuals) that are the biggest users of their data are listed below, in ways that take the requirements of the Paperwork Reduction Act (PRA) into account. USDA can use such methods to determine users that access its data both through USDA's website pages and via data.gov.

- Use application programing interfaces (APIs) to track users. An API is a system of tools and protocols in an operating system that enables developers to build software applications. USDA could track all its APIs, and with permission, and ask for users to fill in email and basic information while requesting access. USDA could use the same APIs for different webpages, and use an API key measurement system (API keys provide a simple mechanism for authenticating, tracking and controlling how APIs are being used).
- Use Google Analytics reports to see the kinds of data searches that lead users to the USDA website; use analytics to see how much each dataset is being used.
- Put all of USDA onto a single FOIA tracking system in order to determine which datasets are in highest demand, and from which users.
- Obtain OMB approval to conduct additional surveys of USDA data users, as required by the PRA. Alternatively, USDA could reach out to third party survey research organizations.
- Estimate the popularity of datasets using proxy measures like the number of downloads.

COMMUNITIES OF INTEREST & FEEDBACK LOOPS

- Appoint a USDA data concierge or librarian that can assist users and report common requests and issues.
- Organize focus groups throughout USDA (e.g. those convened by the National Agricultural Statistics Service (NASS));[1] use these as an informal interview forum for gathering feedback from data users.
- Consider the Health and Human Services (HHS) Consortium concept to create an Agriculture Consortium.[2]
- Use social media platforms to gather feedback and crowdsource input from stakeholders to help make informed policy decisions.
- Engage developers by continuing to hold data jams and issue challenges using USDA data.
- Create communities of interest that leverage existing platforms to address Departmental goals, including food security.
    - *E.g., Linking Community Supported Agriculture (CSAs) with SNAP benefit programs. Many local programs try to boost "food stamp" dollars by expanding existing benefits when they are used to purchase fresh fruit and vegetables, especially from food markets. For example, in some local communities, farmers will provide an additional amount to SNAP beneficiaries when they purchase produce with SNAP dollars, which improves overall diets and expands the market for producers. Plans are underway for the Farm Bill programs to expand local efforts to a nationwide system. The challenge is to bring together beneficiaries and farmers using improved data systems.*
    - *E.g., Waste Not Orange County, a public-private partnership that aims to reduce hunger and food waste. By facilitating the donation of surplus food from restaurants, grocery stores and food distributors to food banks, Orange County, California is reducing food waste and hunger. The Waste Not OC site provides an interactive Google map of all the food pantries in the county. The map models a resource that other communities can easily replicate and offer to their communities. The organization has implemented a host of projects related to food insecurity. It has launched an educational campaign to inform restaurant owners that if the food is prepared correctly when donated, they will not be held liable after that time. With community leaders, Waste Not OC has developed a set of "standard practices" for pediatricians to assess food insecurity and offer resources to families. In addition to providing a vital local service, Waste Not OC has developed a platform that could be applied nationwide.*

OUTREACH & EDUCATION

- Continue to publish engaging narratives about the uses of USDA data – not only the raw data itself – to make USDA and its data resources more relevant to the public. Such 'stories' can help laymen, including farmers, understand and use open data on food resilience.
- Develop and disseminate information documents for businesses outlining the responsibilities associated with

1 National Agricultural Statistics Service: Data Users' Meeting. Accessed December 2nd, 2014. http://www.nass.usda.gov/Education_and_Outreach/Meeting/index.asp.

2 Health Data Consortium. Accessed December 2nd, 2014. http://www.healthdataconsortium.org.

USDA data to avoid the misunderstanding or misuse of data and apply standards to protect privacy.[3]

- Encourage government staffers to attend open government meet-ups and forums (e.g. by offering compensatory time off or recognizing this activity as a performance criterion in position descriptions).

Commitments made by USDA

- The USDA Office of the Chief Information Officer will hire a Chief Data Officer for the Department. His or her mandate will be to explore and establish open data systems throughout all of USDA's agencies and services. The Chief Data Officer will also establish performance metrics for individual agencies and services in USDA to enable the Department to track and recognize progress.
- USDA will inaugurate an Open Data Summer Camp for high school students, planned to start in 2015, for training of using USDA data.

Opportunities for companies and civil society organizations

- Continued customer feedback on access and use of USDA data and response to USDA outreach efforts.
- Continued public cooperation in completing surveys and providing information regarding their data use. This input can help illuminate, for example, how companies are combining data from different sources and what datasets companies use most frequently.
- Provide continued input on priorities for data dissemination.
- Host and participate in events such as hackathons, data jams, etc.
- Cite the use of USDA data, with the USDA logo, on company or organizational websites.
- Participate in research aimed at mapping the uses and users of open data, such as The GovLab's Open Data 500 Study, to continue to improve the understanding of the economic, environmental, and social value open data generates.

3 Open data: Driving growth, ingenuity and innovation. Deloitte Analytics, June 2012: 8. *http://www2.deloitte.com/content/dam/Deloitte/uk/Documents/deloitte-analytics/open-data-driving-growth-ingenuity-and-innovation.pdf*.

Data Discovery and Findability

For both current and new data users to tap the Department's open data resources, they need to be able to *discover and find* the datasets that are of greatest value to them. "Discovering" data implies coming across it in the course of a search on a related subject; "finding" data means being able to locate a specific dataset that the user knows is important to his or her work.

Goal

A priority for USDA is to continue to develop data inventories across the Department and centralize the management of data assets. Each agency and office should have this priority defined as part of its strategic or operational goals and have one place to identify all datasets, catalogued in machine-readable formats.

Desired Impact

To make it easier for data users to discover and find Agriculture data, and foster continued innovation through novel uses of government data.

Recommendations for USDA

- Establish strategic or operational goals, as appropriate, within agencies and services to maintain data inventories, centralize databases and support open data initiatives.
- Create a Data Management Office staffed with a data librarian/concierge.
- Create a USDA data library, with a knowledge engine – a central repository to make data more searchable, with tags and sorting tools. Data.gov has gone a long way towards this goal for USDA and other agencies. However, Roundtable participants noted that its search engine is IT-oriented and needs to be more user-focused.
- Publish a catalogue of USDA's Electronic Data Interchange (EDI). An Electronic Data Interchange is a communication system that enables the exchange of information (primarily structured data) in standard electronic formats between computer systems.
- Improve metadata ("data about the data") in order to make it as comprehensive as possible. Inherent to determining a common taxonomy, or metadata standards is to know your audience. USDA should seek to:
  - Work with industry to develop better, common taxonomy and metadata standards, that conform to worldwide industry standards;
  - Create a metadata database;
  - Determine for datasets the trade-off between releasing data quickly versus releasing it with full metadata. While organizations have highlighted the need for better metadata, the consensus seems to be that releasing

more data quickly is more important than providing the best metadata or an API for data use.

- Identify the optical character recognition (OCR) tools/software that could be used to add metadata to high-priority datasets.

Opportunities for companies and civil society organizations

- Provide continued feedback on the Department's open data platforms and services.

Data Access and Availability

Data repositories use multiple formats and languages to help users *access* data, which may be stored in a variety of different and sometimes incompatible formats. Participants at the Roundtable made clear that: (i) different users require varying modes of access to information; and (ii) providing multiple methods of access, including data as a download, will help ensure equality of access regardless of the user's technological capabilities.

Goal

To provide access to more USDA data, in multiple formats, for the Department's diverse users.

Desired Impact

To increase both the number of users of and ease of access to USDA data in an egalitarian manner.

Recommendations for USDA

- Enable farmers to access Common Land Unit (CLU) data electronically and choose to share it publicly. Section 1619 of the Farm Bill enables farmers to access their own CLU data only by requesting it in person, and does not allow the CLU database to be made public. While these restrictions were enacted to protect privacy and competitive information, Roundtable participants universally flagged the lack of current CLU open data as a major problem that is impeding a significant amount of economic growth. Easing the path to creating a public database of this data could inform crop production, promote precision agriculture and waste minimization, and overall lead to higher output and greater farm productivity. Roundtable participants suggested the following steps as short-term solutions, with hope for legislative amendments in the long term that would allow for CLU data to be made available publicly and via APIs.
  - Create myCLU to enable farmers to gain easier access to CLU information on the units they operate on:
    - Implement a 'My Data Initiative' that also allows farmers both to access their data easily and to provide a public service by uploading them to a public database voluntarily. Potential models are the federally promoted Blue Button and Green Button programs. The Blue Button initiative enables individuals to securely access their personal health and claim information maintained by doctors, hospitals, health plans and others, online.[4] The Green Button initiative is an industry effort, developed with government leadership, to provide utility customers with "easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format."[5]
    - As part of this initiative, harmonize the use of electronic signatures for CLU data requests and accept

4 HealthIT.gov, About Blue Button. Accessed December 2nd, 2014. http://www.healthit.gov/patients-families/blue-button/about-blue-button.
5 U.S. Department of Energy, Green Button Initiative. Accessed December 2nd, 2014. http://energy.gov/data/green-button.

CLU requests digitally.

- Provide some Data as a Service (DaaS) and establish which datasets need to be provided using this approach. DaaS stores information in the cloud so that it is accessible by a wide range of systems and devices in a streamlined manner. Participants specifically mentioned the potential benefits of automated access to drought monitoring data.[6]
- Make available data related to food sources and food waste streams.
- Provide access to data related to food safety and recalls disseminated at the local level, in collaboration with the Food and Drug Administration (FDA) and state and local entities.
- Make available more granular and up-to-date soil data.
- Update data more frequently: data provided on an annual, or even bi-annual basis is often insufficient.
- Make provisions for updating data in the case of a government shutdown and determine which datasets are of highest priority in this eventuality.
- Identify one or more 'rock star' datasets in a topic area (such as the agricultural impacts of climate change) and make them centrally available in a very open way with co-located tools, training, and collaboration.
  - *E.g., NASA's platform for scientific collaboration, knowledge sharing and research within the earth science community, the NASA Earth Exchange (NEX).*[7]
- Provide access to local commodity prices. These allow farmers to make better management decisions, help manage price fluctuations and keep the food system resilient.
- Generate services from existing USDA Production, Supply, and Distribution (PSD) database: allow for visualization of the movement of commodities and global trade flows.
- Participants expressed a desire to improve the availability (and quality) of information on food resilience from a global perspective, both as it relates to production and consumption internationally, with the goal of addressing the asymmetry of data, and closing the gap between developing and developed nations.

Their specific recommendations:

- Aggregate data concerning the impacts of climate change on food security, including coordination and assessment of global impacts with foreign countries and real, daily evolution of food prices globally. This may require investing in tools and web-based training options for international participants in this effort. While it is difficult to obtain a representative sample of price information, participants noted that "some market data is better than no market data," and is complementary to that produced by Foreign Agricultural Service (FAS).
- Work with NASA to publish global geographies of floods and pest and disease outbreaks (animal and plant epidemics) near-real-time and integrate services into FAS workflow to quantify the effects of natural disasters on global agricultural production.

6 Resources for the drought data are listed on the National Weather Services website: http://www.weather.gov/ilm/drought.
7 National Aeronautics and Space Administration Earth Exchange. Accessed December 2nd, 2014. https://nex.nasa.gov/nex.

Commitments made by USDA

- USDA will follow its successful release of "Food Resilience" data as part of the Climate Data Initiative with development of a disaster data clearinghouse portal to help agricultural producers affected by natural disasters find appropriate technical or financial assistance.

Opportunities for companies and civil society organizations

- Provide continued input on data priorities, modes of access and uses, and other user feedback.

Data Quality

While there are many definitions of *data quality*, it generally refers to the completeness, validity, and accuracy of data. Issues relating to data *interoperability* and *accessibility* are addressed in other sections.

Goal

To make data more complete, representative, and "clean," reducing noise and inaccuracy within datasets.

Desired Impact

To improve the usability of USDA data and reduce the amount of work necessary to clean data for use.

Recommendations for USDA

Participants in the Roundtable emphasized that getting data out is a priority over making it perfect before releasing it. Data validation is, however, a big concern. The following is a list of both general and specific suggestions to allow the agency to publish data sooner, without sacrificing quality.

- Crowdsource among select groups for quality checks: release to a small expert group to review its accuracy and usability, and improve the quality of the data.
  - *See, for example, work done by MyAgData.*[8]
- Publish all data with intelligible column names, or with the coding adjoined.
- Publish data on boundaries in an unmerged version: merged columns restrict machine readability.
- Implement provisions to make Summer Food Service Program data available (and complete) at the federal level. Though states are strongly urged to provide it, currently they don't all do so, despite being nationally funded.
- Prioritize the improvement of:
  - Advanced Hydrologic Prediction Service (AHPS) Precipitation Grids – increase the resolution;
  - National Information Exchange Model (NIEM) – create the Agriculture NIEM model with data standards;
  - National Agriculture Imagery Program (NAIP) - develop data that can be layered with LandSat (USGS). Consider characterizing uncertainties associated with the data and communicating these as metadata or commentaries.
- Explore standardizing data collection with mobile applications *(see Data Collection section)*.

8 MyAgData. Accessed December 2nd, 2014. http://www.myagdata.com.

Commitments made by USDA

- The USDA Office of the Chief Information Officer will develop training for agency/office "Data Stewards" to help them improve data quality in their locations.
- USDA will develop an outreach and training program on data quality and transparency for interns and young people who might wish to pursue an IT career with USDA.
- USDA will continue to mature the Open Data Working Group as a support body to the executive level Open Data Council, assisting with quality as well as quantity of data releases.

Opportunities for companies and civil society organizations

- Communicate data quality issues to the relevant USDA agencies and offices.
- Explore ways to share the improved, cleaned data once it has been processed.

Data Interoperability

The value of data multiplies when datasets can be combined. This will only be possible with better *interoperability* across agencies, offices, and departments at all levels of government.

Goal

To develop and implement a set of common policies, tools, taxonomies, and standards both across USDA and with other federal agencies whose data is relevant to food resilience.

Desired Impact

To allow users to better and more easily combine different datasets and variables (across agencies, government or with private data). This makes it possible for users to analyze and visualize information and develop actionable insights in new, more efficient ways.

Recommendations for USDA

- Institute a "crosscut" system to keep users from having to go to multiple agencies or offices within USDA for portions of the data they need. Provide "one stop" service.
- Standardize data definitions to render data more uniform. Currently, datasets across USDA have different codes and standards as a result of the authorizing legislation for different data collections.
  - *For instance, there are over 8 different statutory definitions of 'rural area'.*[9]
  - *Similarly, federal nutrition programs don't have a common way of recording complaints.*
- Explore opportunities to collaborate with the private sector to standardize datasets. For instance, working with the FDA, Esri has provided the open source tool that collects consumer data, and Dovel Technologies has mapped and shared it.
- Standardize joining fields: the lack of joining fields makes it difficult to use USDA data in conjunction with other (private and government) data. One particular goal can be to join food benefit use data and medical data (i.e. Center for Medicare and Medicate Services (CMS) datasets).
- Identify the most authoritative data sources across agencies and offices and establish workable timelines for interoperability.
- Include information on sourcing when publishing data.

9 What is Rural? U.S. Department of Agriculture, National Agricultural Library. Accessed December 2nd, 2014. http://ric.nal.usda.gov/what-is-rural; Report on the Definition of "Rural." U.S. Department of Agriculture, Rural Development, February 2013. http://www.rurdev.usda.gov/Reports/RDRuralDefinitionReportFeb2013.pdf.

- Ensure a common taxonomy for data to make it more interoperable across and within agencies.
- Further leverage mapping and Geographic Information Systems (GIS):
  - Develop metadata standards applicable to GPS coordinates that protect personally identifiable information (PII).
  - Locate future geographies of crop-specific suitability, based on various circulation models. Map crop-specific requirements to geographies of future agro-ecological zones to estimate migrating crop geographies.
  - Set up a 'Visualizing the World's Food Systems' tool and curate layers, maps, apps, and algorithms (functions) that are applied to streaming content. These could be set up with thematic areas such as: Risk and Constraints, Agricultural Production, Markets and Trade.
  - Map geographies of risk and vulnerability, for instance: Risk to climate change, Risk to socio-economic vulnerability, Governance and Conflicts.
  - Improve USDA's Food Environment Atlas, for example, through an up-to-date connection with source data that would make it easier to access relevant data.[10]
- Develop training and communication between state and federal levels for data collection and digitization (strategies and operationalizing).
- Seek ways to address the barriers to collaborative work within government where the tools are blocked due to privacy concerns, e.g. restrictions on the use of Google Drive.

Recommendations to increased interoperability across U.S. Government

- Support efforts for the U.S. Government to create an Open Data Sharing Council, possibly through the Information Sharing and Access Interagency Policy.[11]
  - *For instance, in 2004 a data sharing council was set up to create a common definition of terrorism and database of information.*
  - *A similar systemic risk organization, the Financial Stability Oversight Council (FSOC) was created in 2010 when Dodd-Frank was passed.*[12]
- The following agencies, in particular, should collaborate to leverage data collectively: USDA – Animal and Plant Health Inspection Service (APHIS), Food and Drug Administration (FDA), Center for Disease Control and Prevention (CDC), National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS), Environmental Protection Agency (EPA), Social Security Administration (SSA), and Federal Emergency and Management Agency (FEMA).
  - USDA could work with USGS' iCoast, to see the impacts of sea level rises and storm surges on transport

10 U.S. Department of Agriculture, Economic Research Service, Food Environment Atlas. Accessed December 2nd, 2014. http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx.
11 The Information Sharing Environment (ISE). Accessed December 2nd, 2014. http://www.ise.gov/ise-governance.
12 U.S. Department of Treasury, Financial Stability Oversight Council. Accessed December 2nd, 2014. http://www.treasury.gov/initiatives/fsoc/pages/home.aspx.

of food and aquaculture, among others.

- Create indicators that connect food systems, such as linking food production to neighborhood outcomes.
- Define and list networks of supply and distribution of data that are used across agencies: cross-governmental records of entities that are interfacing with multiple agencies.

Commitments made by USDA

- The Statistics Committee of USDA's Science Council will continue to identify opportunities for administrative data sharing.
- USDA will highlight its "best practice" examples among component agencies and offices so the Department as a whole can improve its performance, for example, featuring Economic Research Service's framework for determining which datasets to release when at a Department-wide policy briefing.

Opportunities for companies and civil society organizations

- Develop partnerships (including in the creation of apps and web services): there is potential here for collaborative public-private models between vendors, developers, and agencies.
  - For instance, one group at the Roundtable suggested an app that provides a "real-time data alert" system specific to food emergencies and food safety which could also be employed by USDA and other government departments to share information with the public during times of crisis or disaster. They designed the schematic of such an app to bridge the gap in provision and convergence of data on emergency preparedness and emergency response. The participants proposed that this app would:
    - Be developed by the private sector;
    - Engage local agents (government and non-government) on data collection;
    - Include education and outreach elements, including education for citizens on food safety and a function for private companies to promote safety information regarding their products;
    - Allow information-sharing – such as tracking food supply chains among different agencies, crop yields and weather conditions – to provide the public, government and private sector secure access to relevant, local, real-time data and alerts to users;
    - Provide data for research purposes;
    - Allow emergency broadcasting for FEMA in the event of disease outbreaks, food poisoning and recalls;
    - Utilize data from the following agencies: USDA, CDC, DOT, FDA, FEMA, NOAA, 911 call centers;
    - Incorporate a crowdsourcing function: photos and feedback;
    - Include a variety of users: agencies, consumers, producers, even international governments and other agents (e.g. Federal Bureau of Investigation, Department of Defense);

    - Use a tiered cost structure: free to consumers, fees for vendor users and government after construction.

- Work with government towards the development and implementation of common standards, API processes, and metadata.

Data Collection and Sharing

By making *data collection* more frequent, and by tapping a larger number of detailed data sources, government agencies can make their datasets more valuable. This is particularly important as traditional methods of data collection, such as surveys, have become less effective. Once collected, data can be *shared* through public-private collaboration that may include sharing data collected by companies as well as by government. The participants at the Roundtable highlighted another major *interoperability* issue related to data collection: the difficulties in integrating and sharing private, or proprietary data when combined with USDA data. In order to overcome these, cooperation and collaboration between the public, non-profit, private and government sectors is needed, with the common goal of collecting and using more complete, granular, and reliable data.

Goal

For government, companies and nonprofits to collaborate in the improved collection and integration of data.

Desired Impact

To make available more complete and representative data for public use and innovation.

Recommendations for USDA

- Given the sometimes prohibitive cost of data collection, USDA should explore establishing and maintaining public-private relationships for this purpose specifically.
  - Expand role of the Farm Service Agency (FSA) and all other agencies that collect and manage data, as well as county and state committees to include developing public-private partnerships.
- Incentivize farmers to both collect and share data, for instance:
  - Financial compensation,
  - Opt in models,
  - Attribution: for example, include language indicating, "The data used is owned by American farmers in partnership with USDA."
- Take advantage of the Internet of Things – digital devices connected to the Internet that collect data and are able to identify themselves to other devices; the government thereby acts as aggregator with relevant attribution.
  - *E.g. Boston's street bump app to locate potholes.*[13]
- USDA could set the standards for language and data collection methodologies and promote them through

13 City of Boston, Street Bump. http://www.cityofboston.gov/DoIT/apps/streetbump.asp.

USDA's Cooperative Extension Service offices.

- Explore the potential of digital and mobile photography: field visits are cost prohibitive, and satellite imagery is very useful but not always sufficiently accurate.
  - For instance, USDA may be open to help on completing CLU data. Some CLU fields have not been measured accurately, and the private sector can help with this.
- Leverage existing information and apps; for example the AgriClimate Connection, funded by USDA provides an opportunity for Midwestern farmers, extension specialists and others to share knowledge, new approaches and solutions with farmers.[14]
- Provide an inventory of grocery stores that accept Supplemental Nutrition Assistance Program (SNAP) that is compatible with private-sector data vendors such as Nielsen Trade Dimensions, Dun & Bradstreet and InfoUSA. USDA could track the unique database IDs for each data vendor in the SNAP database, thus allowing researchers to join attributes from multiple databases.
- Develop similar lists for other USDA business databases - for example, it would be helpful to have private data vendor IDs assigned to USDA's list of food producers, processors, wholesalers, and other food-related businesses. Source attribution is important for establishing the reliability ('pedigree') of data. In general, there is a need for a data registry to track ownership of data, within government.
- Develop and use better tools and processes for collection and analysis of unstructured data without losing quality. "Unstructured data" refers to content that does not follow a specified format, such as photographs, text files, or surveys where data is fragmented. Identify which tools already exist and could be tailored to USDA.
  - Continue to develop ways to collect surveyor data in a more structured manner, including through digital surveying to improve usability and increase data integrity and value.
- Connect with groups like Knoema to explore developing a project similar to the Africa Food Price Volatility joint project between the organization and the European Commission's Joint Research Centre – The Institute for Prospective Technology Studies.
  - *Knoema is helping the European Commission (EC) collect food prices data from 50 countries in Africa, and the EC is thereby distributing and making the data open. The aim of the project is to explore the possibility and challenges of crowd-sourced food price data collection in Africa using modern web-based tools and technologies. Agricultural commodity prices were collected on a weekly basis in African countries by a network of people on the field; reviewed and submitted into a centralized data repository using web-based crowdsourced data platform. As a result, a high-frequency food price database has been built.*[15]

Commitments made by USDA

- USDA will follow up its April 2013 data release as part of the G8 Open Data for Agriculture Conference with additional data sharing initiatives aimed specifically at Africa.

14 AgriClimate Connection. Accessed December 2nd, 2014. http://sustainablecorn.org/blog.
15 Knoema, Africa Food Price Volatility. Accessed December 2nd, 2014. http://knoema.com/bdrbaze/africa-food-price-volatility.

Opportunities for companies and civil society organizations

- Develop apps and web services that could help increase data collection, in cooperation with USDA. For instance:
  - Using mobile technologies to collect boundaries data;
  - Using sensors to collect environmental data (in areas not covered by USDA, NOAA, and NASA);
  - Collecting local commodity prices.
- There is an opportunity for entrepreneurs and software developers to develop mobile solutions for easing and improving data collection processes for field inspectors and surveyors.
- Explore opportunities for data philanthropy, initiatives or partnerships in which private sector companies share data for public benefit.[16]

16 For examples of data philanthropy, see: Stempeck, Matt, "Sharing Data is a form of Corporate Philanthropy," Harvard Business Review, July 24th, 2014. https://hbr.org/2014/07/sharing-data-is-a-form-of-corporate-philanthropy.

Data Storage and Dissemination

Government agencies face financial and operational challenges in *storing and disseminating* their data. New strategies, including collaboration with the private sector, can make greater data resources available more widely.

Goal

To leverage government and private resources to enhance data dissemination through sustainable partnerships to achieve this at no net cost to the government.

Desired Impact

To increase USDA's capacity to provide equal, fair access for data users to greater quantities of data that create economic and social value.

Recommendations for USDA

- Consider using cloud services: these fit in with mapping and providing real time data and web services.
- Investigate a different kind of funding structure, such as a fee for service for some kinds of data, fees for supercomputing time. This goes back to the 1970s establishment of the Federal Systems Integration and Management Center (FEDSIM).[17]
  - *E.g., NOAA's RFI to gauge private sector interest in providing some of this core infrastructure revealed companies are interested in a fee for service model administered by the private sector. Market research has been completed by the Department of Commerce.*[18]
  - *E.g., The National Parks have done this: managing parks from a public good perspective whilst charging for camping.*
  - *E.g., Google donated software to help the government push out their data as fast as they were pulling it. This necessitated acting through an NGO.*[19]
  - *E.g., Esri has entered an agreement with Aerial Photography Field Office (APFO) allowing data to be used, and some sort of return on whatever product comes out.*[20]

17 U.S. General Services Administration, Federal Systems Integration and Management Center. Accessed December 2nd, 2014. http://www.gsa.gov/portal/content/104719.

18 Federal Business Opportunities, Big Data RFI from NOAA. Accessed December 2nd, 2014. https://www.fbo.gov/index?s=opportunity&mode=form&id=d9844cb78b4527fb11a6ac6d2b80a742&tab=core&_cview=0.

19 FACT SHEET: The President's Climate Data Initiative: Empowering America's Communities to Prepare for the Effects of Climate Change. The White House, Office of the Press Secretary, March 18th, 2014. http://www.whitehouse.gov/the-press-office/2014/03/19/fact-sheet-president-s-climate-data-initiative-empowering-america-s-comm.

20 Heald, James. Developing a National GIS Data Layer for Agriculture One County at a Time. U.S. Department of Agriculture, Farm Service Agency. Accessed December 2nd, 2014. http://proceedings.esri.com/library/userconf/proc00/professional/papers/PAP353/p353.htm.

- Explore adopting and expanding the Waste Not Orange County's platform to address food insecurity: the site provides an interactive Google map of all food pantries in the county *(See Data Users as Customers section)*.

Opportunities for companies and civil society organizations

- Develop data download web services at no cost to government.
- Explore business models for the provision of cloud-based platforms at no net cost to government.

Appendix A: Current USDA Initiatives Presented at the Open Data Roundtable

The following commitments by the U.S. Department of Agriculture were presented at the Open Data Roundtable on August 1, 2014.

USDA-wide actions

- President Obama committed that the U.S. would convene a meeting of the G8 countries on agriculture on open data that took place in 2012.
- The Global Open Data for Agriculture and Nutrition (GODAN): As part of the G20, USDA is working with global collaboration platforms in agriculture.
- USDA has already published 425 datasets listed on data.gov and usda.gov/data, and a public data catalogue on the USDA website.
- In May and August 2014, USDA put out two prioritization memos (relating to disasters).
- USDA has made a public commitment to better understanding the user base.

National Institute of Food and Agriculture (NIFA)

- Looking at new options for information management.
- Coordinating with universities on research studies.
- Working on topic modeling to help categorize scientific data.
- Drafting implementation policies for open scientific data (scholarly) applications.

Food Safety and Inspection Service (FSIS)

- Making the job of inspectors easier.
- Improving report management systems.
- Digitizing data/sample collection process (currently done the old-fashioned way, collected on paper and transferred manually to online databases).

Farm Service Agency (FSA)

- Impeded from opening its data by data sharing provisions in the Farm Bill, FSA seeks ways to share field data (e.g. conservation, production, forecasting, etc.) in ways that could enhance farm programs.

U.S. Forest Service (FS)

- Working to improve access to its databases.
- Addressing the challenge in moving data from individual files to a database and the great computational power needs, FS will systematize the approach to connecting ground base measurements to global reporting.
- Digitizing of maps and processes; e.g. pest surveys done through ground/aerial surveys (currently all done via hand-drawn maps),

National Agricultural Statistics Service (NASS)

- Organizes yearly Data Users' Meeting; the most recent took place October 14th, 2014.

Appendix B: Summary of USDA commitments made since the Open Data Roundtable

The USDA Office of the Chief Information Officer will hire a Chief Data Officer for the Department. His or her mandate will be to explore and establish open data systems throughout all of USDA's agencies and services. The Chief Data Officer will also establish performance metrics for individual agencies and services in USDA to enable the Department to track and recognize progress.

USDA Office of the Chief Information Officer will develop training for agency/office "Data Stewards" to help them improve data quality in their locations.

USDA will inaugurate an Open Data Summer Camp for high school students, planned to start in 2015, for training of using USDA data.

USDA will develop an outreach and training program on data quality and transparency for interns and young people who might wish to pursue an IT career with USDA.

USDA will continue to mature the Open Data Working Group as a support body to the executive level Open Data Council, assisting with quality as well as quantity of data releases.

The Statistics Committee of USDA's Science Council will continue to identify opportunities for administrative data sharing.

USDA will highlight its "best practice" examples among component agencies and offices so the Department as a whole can improve its performance, for example, featuring Economic Research Service's framework for determining which datasets to release when at a Department-wide policy briefing.

USDA will follow up its April 2013 data release as part of the G8 Open Data for Agriculture Conference with additional data sharing initiatives aimed specifically at Africa.

USDA will follow its successful release of "Food Resilience" data as part of the Climate Data Initiative with development of a disaster data clearinghouse portal to help agricultural producers affected by natural disasters find appropriate technical or financial assistance.

Appendix C: The Governance Lab, Open Data 500 and Open Data Roundtables

The Governance Lab at New York University (The GovLab)

Founded in 2012, with funding from the John D. and Catherine T. MacArthur Foundation and the John S. and James L. Knight Foundation, The GovLab brings together thinkers and doers who design, implement, and study technology-enabled solutions that advance a collaborative, networked approached to reinvent institutions of governance. Its goal is to advance understanding of how 21st century citizen engagement can make governance more effective and legitimate. The release of high-value open government data for public use is an important part of that process.

Open Data 500 Study

The Open Data Roundtables draw on the findings of The Open Data 500, the first comprehensive study of U.S. companies that use open government data to generate business and develop new products and services. The core objectives of this study, conducted with funding from the Knight Foundation, are to: 1) Provide a basis for assessing the value of open government data; (2) Encourage the development of new open data companies; and (3) Help government agencies and businesses work together to determine how open government data can be made more complete, accurate, and usable.

The Open Data Roundtable Series

The Open Data Roundtables, held in Washington, DC, are designed to help federal agencies implement the U.S. Open Data Policy while meeting the Policy's requirement that agencies collect input from those who use their data. The U.S. Open Data Action Plan, released by the White House on May 9, 2014, describes these Roundtables as a key part of meeting the commitment to "support innovators and improve open data based on feedback." The Plan notes that "specific, actionable feedback from these sessions [the Roundtables] and others has the potential to improve descriptions, formats, and accessibility of government data." The Open Data 500 team at The GovLab is now planning, facilitating, and reporting on the first ever series of Open Data Roundtables with U.S. federal agencies.

OUTCOMES

The Roundtables bring together data providers in government and data users in the business and nonprofit communities to identify the kinds of datasets that have the greatest value, and to determine what is needed to make them as useful as possible. They are designed to:

- Prioritize the most important datasets in each agency for business and public use.
- Improve each agency's data and make it easier to find, access, and work with.
- Connect businesses and organizations with government agency staff that manage the data they use, and set up a process for ongoing feedback.

PARTICIPANTS

Participants in the Roundtables include:

- Government Agencies, which determine which individual or small team are best equipped to lead their participation. Key participants' contact information will be made public so that they can serve as the points of public contact required by the Open Data Policy.
- Companies, which are drawn from the Open Data 500 Study. Any company identified as using the federal agency's data has been invited to participate in both the Study and the Roundtable.
- Nonprofits, NGOs, academic researchers and others who may be invited because of their interest and expertise with federal data. These participants for each roundtable are chosen based on their ability to add insights to the specific kinds of data being discussed at that roundtable.
- The GovLab's Open Data 500 team, which facilitates and records these public-private dialogues as a neutral third party. The team designs each roundtable in collaboration with the agencies and businesses involved and guides the pre-work needed to make each event efficient and productive.

More information about the Open Data Roundtable Series is available at www.OpenData500.com.

Appendix D: The Open Data Roundtable with USDA

Agenda

Friday, August 1st, 2014
Cafeteria Conference Room, U.S. Department of Agriculture, South Building
1400 Independence Avenue, SW, Washington, DC 20250

9:00 AM Registration, Coffee and Continental Breakfast

9:30 AM Welcome

Dr. Ann Bartuska
Deputy Under Secretary, Research, Economics and Education
U.S. Department of Agriculture

Erie Meyer
Senior Advisor to the U.S. Chief Technology Officer
White House Office of Science and Technology Policy

9:50 AM Structure of the Day

Joel Gurin
Senior Advisor, The GovLab

9:55 AM Agency and Office Briefings

- National Institute of Food and Agriculture (NIFA)
- Food Safety Inspection Service (FSIS)
- Economic Research Service (ERS)
- Farm Service Agency (FSA)
- Forest Service (FS)
- Foreign Agricultural Service (FAS)
- Department of Health and Human Services (HHS)
- National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce

11 AM Break

11:15 AM Breakout Session 1: Using USDA Data for Climate Change Adaptation and Emergency Preparedness

- Food production
- Food economics
- Food security and distribution

12:45 PM Networking Lunch

1:30 PM Breakout Session 2: Data-Driven Solutions for Food Resilience

3:00 PM Break

3:15 PM USDA Commitments and Next Steps

Dr. Catherine Woteki
Chief Scientist, U.S. Department of Agriculture

Cheryl Cook
Chief Information Officer, U.S. Department of Agriculture

3:40 PM Closing

Joel Gurin
Senior Advisor, The GovLab

3:45 PM Adjourn for Reception

Participants

Companies	
Amazon Web Services	Amazon provides cloud computing services through Amazon Web Services to a range of clients. Representatives: **Jed Sundwall –** *Open Data Business Development Manager* **Ariel Gold** – *Program Manager, World Wide Public Sector*
Azavea	Azavea is a geospatial analysis (GIS) software development firm specializing in creating location-based web and mobile software as well as geospatial analysis services. Representative: **Tyler Dahlberg –** *Geospatial Solution Specialist*
Climate Corporation	Climate Corporation aims to help farmers around the world protect and improve their farming operations with powerful software and insurance products. Representative: **Ines Kapphan –** *Product Manager, Weather Data Systems*
Dovel Technologies	Dovel Technologies provides high-end software and application development to government clients. Representatives: **Omar Silver –** *Program Director* **Adam Welsh** – *Senior Vice President, Health IT*
Eagle Force Associates	Eagle Force Associates assists clients in the design and deployment of intelligent systems where man and machine interface and applications are designed to optimize the performance of each by providing the heavy lifting for many of the most difficult problems in computer science. Representative: **Stanley Campbell** - *Chief Executive Officer*
Esri	Esri is an international supplier of geographic information systems and geodatabase management applications. Representative: **Sinam Al-Khafaji –** *USDA Account Manager*

Farm Logs	FarmLogs is a way for farmers to forecast and measure profits, track expenses, manage risk, and get informed all from one place. Representative: **Jesse Vollmar –** *Co-Founder and Chief Executive Officer*
Google	Google's mission is to organize the world's information and make it universally accessible and useful. Representative: **David Standish –** *Federal Civilian Account Manager*
IBM	IBM is a multinational technology and consulting corporation that works with companies, cities and communities around the world to build a smarter planet. Representative: **Steven Adler –** *Information Strategist*
Independent Data Management LLC	Independent Data Management provides software utilities and services to help farmers with information management and reporting needs Representative: **Deb Casurella –** *General Manager*
Knoema	Knoema is a knowledge platform, connecting data with analytical and presentation tools. Representative: **Marisa Gil Lapreta –** *Health Market Intelligence Portfolio Manager*
Mackson Consulting	Mackson Consulting is a Women Owned Small Business (WOSB) delivering IT services to the commercial and public sector markets. Representative: **Lori Davis –** *Vice President*
PolicyMap	PolicyMap is a web-based GIS and mapping company that captures and visualizes data including demographics, health data, mortgage trends, school performance scores, and crime statistics. Representative: **Elizabeth Nash –** *Director of Data and Product Development*
PricewaterhouseCoopers	PricewaterhouseCoopers is a network of firms in 158 countries that delivers assurance, tax and advisory services. Representative: **Joseph Gulisano –** *Risk Assurance Innovation Technology*

Socrata	Socrata's mission is to connect people to the government data they need and want. Representatives: **Stu Rabinowitz –** *Director of Federal Markets and Channel Partners* **Kenneth Melero** – *Director of Federal Policy* **Joe Pringle** – *Director of Health*
vSolvIT	VSolvit (Pronounced: We*Solve*it) is technology services company that specializes in the areas of Geographic Information Systems and IT application development. Representatives: **Payal Kamdar –** *President and Chief Executive Officer* **Sheila Steffenson** – *Director of Operations*
NON-PROFIT ORGANIZATIONS	
The Reinvestment Fund	TRF finances neighborhood revitalization. It is a national, progressive, results-oriented, socially responsible community investment group that works across the Mid-Atlantic region. Representative: **Morgan Robinson –** *Data Analyst*
Ushahidi	Ushahidi is a web and mobile platform that allows users to create, visualize and share stories on a map. Representative: **Charles Martin-Shields** - *Consultant*
WhyHunger	WhyHunger is building the movement to end hunger and poverty by connecting people to nutritious, affordable food and by supporting grassroots solutions that inspire self-reliance and community empowerment. Representative: **Jessica Powers –** *Director, National Hunger Clearinghouse*
DEPARTMENT OF AGRICULTURE	
AgriculturalResearchService(ARS)	ARS is USDA's principal in-house research agency. ARS leads America towards a better future through agricultural research and information. *Representatives:* **Paul Gibson** – *Chief Information Officer*

Animal and Plant Health Inspection Service (APHIS)	APHIS provides leadership in ensuring the health and care of animals and plants. The agency improves agricultural productivity and competitiveness and contributes to the national economy and the public health. Representative: **Ron Sequeira** – *Associate Director*
Economic Research Service (ERS)	ERS is USDA's principal social science research agency. Each year, ERS communicates research results and socioeconomic indicators via briefings, analyses for policymakers and their staffs, market analysis updates, and major reports. Representatives: **Lewrene Glaser** – *Deputy Director for Data Management* **Karl Gudmunds** – *Branch Chief* **David Nulph** – *GIS Analyst*
Food and Nutrition Service (FNS)	FNS increases food security and reduces hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthy diet, and nutrition education in a manner that supports American agriculture and inspires public confidence. Representative: **Joe Koss** – *Branch Chief, Applications Development*
Foreign Agricultural Services (FAS)	FAS works to improve foreign market access for U.S. products. This USDA agency operates programs designed to build new markets and improve the competitive position of U.S. agriculture in the global marketplace. Representative: **Dr. Daney Jackson** – *Ministerial Agricultural Extension Advisor*
Farm Service Agency (FSA)	The Farm Service Agency implements agricultural policy, administers credit and loan programs, and manages conservation, commodity, disaster and farm marketing programs through a national network of offices. Representatives: **Ted Payne** – *GIS Office Chief* **Rich Iovanna** – *Agricultural Economist*

Food Safety and Inspection Service (FSIS)	FSIS enhances public health and well-being by protecting the public from foodborne illness and ensuring that the nation's meat, poultry and egg products are safe, wholesome, and correctly packaged. Representatives: **Dr. Kerry Dearfield –** *Chief Scientist* **David Sandler –** *Senior Emergency Response Specialist*
National Agriculture Statistics Service (NASS)	NASS serves the basic agricultural and rural data needs of the country by providing objective, important and accurate statistical information and services to farmers, ranchers, agribusinesses and public officials. This data is vital to monitoring the ever-changing agricultural sector and carrying out farm policy. Representatives: **Michael Valivullah** - *Chief Technology Officer* **Thomas Jacob** - *Analyst*
National Institute of Food and Agriculture (NIFA)	NIFA's unique mission is to advance knowledge for agriculture, the environment, human health and well-being, and communities by supporting research, education, and extension programs in the Land-Grant University System and other partner organizations. NIFA doesn't perform actual research, education, and extension but rather helps fund it at the state and local level and provides program leadership in these areas. Representatives: **Tina Chang –** *Acting CIO, Director of Applications* **Dr. Michael Bowers –** *National Program Leader, Director of the Agriculture and Food Research Initiative (AFRI)*
National Resources Conservation Service (NRCS)	NRCS provides leadership in a partnership effort to help people conserve, maintain and improve our natural resources and environment. Representative: **Eva Mitter**

Office of the Chief Information Officer (OCIO)	OCIO has the primary responsibility for the supervision and coordination of the design, acquisition, maintenance, use, and disposal of information technology by USDA agencies. OCIO's strategically acquires and uses information technology resources to improve the quality, timeliness and cost-effectiveness of USDA services. Representatives: **Joyce Hunter** – *Deputy CIO* **Bobby Jones** – *Senior Advisor, Deputy CIO* **Barbara Leach** – *Director of Risk Mitigation* **Stephen Low** – *Geospatial Information Officer* **Ravoyne Payton** – *Acting Departmental FOIA Officer*
Office of the Chief Scientist (OCS)	OCS provides scientific leadership to the Department by ensuring that research supported by and scientific advice provided to the Department and its stakeholders is held to the highest standards of intellectual rigor and scientific integrity. It also identifies and prioritizes Department-wide agricultural research, education, and extension needs. Representative: **Tawny Mata** – *AAA Fellow & Advisor for Climate Change*
Research, Education and Economics (REE)	The Research, Education, and Economics (REE) mission area of the U. S. Department of Agriculture has Federal leadership responsibility for Advancing scientific knowledge related to agriculture through research, extension, and education. Representative: **Dr. Ann Bartuska** – *Deputy Under Secretary*
Risk Management Agency (RMA)	RMA helps to ensure that farmers have the financial tools necessary to manage their agricultural risks. RMA provides coverage through the Federal Crop Insurance Corporation, which promotes national welfare by improving the economic stability of agriculture. Representative: **Katina Hanson** – *Acting Budget Officer*
Rural Development (RD)	RD helps rural areas to develop and grow by offering Federal assistance that improves quality of life. RD targets communities in need and then empowers them with financial and technical resources. Representative: **Patrice Kunesh** – *Deputy Under Secretary* **Curtis Wiley** – *Chief of Staff, Acting Deputy Assistant Secretary*

OTHER GOVERNMENT AGENCIES AND OFFICES	
U.S. Department of Commerce (DOC) - National Oceanic and Atmospheric Administration (NOAA)	NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it. From daily weather forecasts, severe storm warnings and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. Representative: **David Michaud** – *Deputy CIO*
U.S. Department of Health and Human Services (HHS)	HHS is the United States government's principal agency for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves. Representative: **Damon Davis** – *Director of the Health Data Initiative*
U.S. Department of Treasury (Treasury)	Treasury promotes economic growth through policies to support job creation, investment, and economic stability. Treasury also oversees the production of coins and currency, the disbursement of payments to the public, revenue collection, and the funds to run the federal government. Representative: **Marcus Graham** – *Project Manager, Intelligent Data Pilot*
White House Office of Science and Technology Policy (OSTP)	The mission of the Office of Science and Technology Policy is threefold; first, to provide the President and his senior staff with accurate, relevant, and timely scientific and technical advice on all matters of consequence; second, to ensure that the policies of the Executive Branch are informed by sound science; and third, to ensure that the scientific and technical work of the Executive Branch is properly coordinated so as to provide the greatest benefit to society. Representative: **Erie Meyer** – *Senior Advisor to the CTO*
Social Security Administration	Social Security delivers a broad range of services online at socialsecurity.gov and through a nationwide network of over 1,400 offices that include regional offices, field offices, card centers, teleservice centers, processing centers, hearing offices, the Appeals Council, and our State and territorial partners, the Disability Determination Services. Representative: **Linda McCaw** – *Program Manager*

U.S. Geological Survey (USGS)	The USGS is a science organization that provides impartial information on the health of ecosystems and the environment, the natural hazards that threaten us, the natural resources we rely on, the impacts of climate and land-use change, and the core science systems that help us provide timely, relevant, and useable information. Representative: **Jonathan Smith** – *Program Coordinator, Land Change Science*

Open Data Roundtable Sponsors

SERIES SPONSORS

The GovLab thanks Amazon Web Services and PricewaterhouseCoopers for their support of the Open Data Roundtable Series. This Series plans to include 10 Roundtables with federal agencies and data users throughout 2014 and 2015.

Amazon Web Services offers a broad set of global compute, storage, database, analytics, application, and deployment services that help both large enterprises and start-ups move faster, lower IT costs, and scale applications. Amazon Web Services Worldwide Public Sector is helping government and education customers employ cloud services to reduce costs, drive efficiencies, and increase innovation across the globe. Public Sector organizations of all sizes use AWS to build applications, host websites, harness big data, store information, conduct research, improve online access for citizens, and more. *For more information, see aws.amazon.com/gov.*

PricewaterhouseCoopers is a network of firms in 158 countries that delivers quality in assurance, tax and advisory services. PWC helps federal agencies meet the challenge of integrating financial and performance systems to help make decisions and improve accountability. Clients look to the PricewaterhouseCoopers Public Sector Practice to bring direct hands-on knowledge of federal standards for systems, internal controls, and financial reporting. The Practice assists clients through creating interactive data, developing an agile reporting and analytic framework, and identifying and implementing improvements to the data and information supply chain. *To find out more, visit www.pwc.com/publicsector.*

EVENT SUPPORTER

The GovLab thanks Socrata for supporting the catering and reception for the Department of Agriculture Open Data Roundtable.

Socrata is focused on democratizing access to government data. Its solutions help government leaders improve transparency, modernize citizen access to information and bring facts into every decision, with unprecedented speed and cost savings. Delivered as turnkey cloud services, Socrata's data consumerization products unlock data in enterprise data silos and transform it into useful information that everyone can easily access, visualize, share and reuse. *For more information, visit www.socrata.com.*

Appendix E: Media coverage

Participants in Open Data Roundtables Guide USDA on Ways to Provide High Quality Data to Users
By Joyce M. Hunter, Deputy Chief Information Officer, Policy and Planning, USDA–August 7, 2014
https://www.data.gov/food/participants-open-data-roundtables-guide-usda-ways-provide-high-quality-data-users

USDA Open Data Roundtable: Climate Change and the Food Supply
By Joel Gurin, Senior Advisor at The GovLab, Project Director of the Open Data 500–August 14, 2014
http://thegovlab.org/the-usda-open-data-roundtable-climate-change-and-food-resilience