

Enhancing the Credibility of Survey Data: Old Tricks and New Techniques in Improving the Respondent Experience

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National Agricultural Statistics Service
(NASS)
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Outline

- NASS Overview
- Preparing for Survey Data Collection
- Census vs Survey - What Do We Do Differently
- Current State Analysis
- Looking forward



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National Agricultural Statistics Service

The NASS Mission

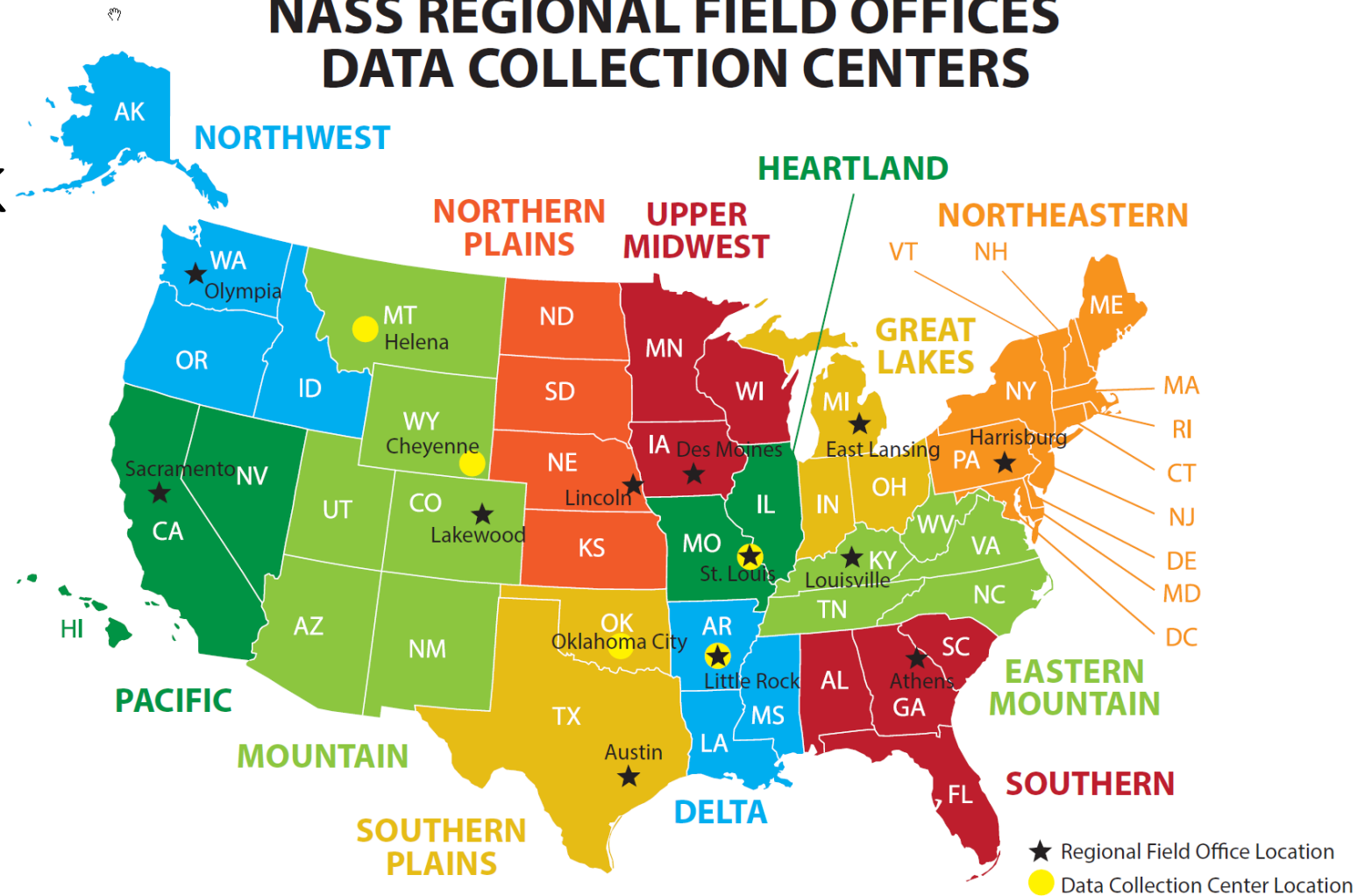
To provide timely, accurate, and useful statistics in service to U.S. agriculture.



1 of 13 Principal Federal Statistical Agencies

Where We Work

NASS REGIONAL FIELD OFFICES DATA COLLECTION CENTERS



What We Do

- Administer over 400 surveys a year and conduct a Census every 5 years, all with strict data collection timeframes and due dates for publication of findings.
 - Principal Federal Econ Indicators
 - Market Sensitive
- Modes of collection
 - In-person (CAPI)
 - Telephone (CATI)
 - Web (CASI)
 - Mail



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YOUR VOICE. YOUR FUTURE. YO



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2024 Agricultural Statistics Board Calendar



	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	
January	1 HOLIDAY	2 Cotton System Fats & Oils Grain Crushings	3 State Stories Citrus Fruits Final Estimates Noncitrus Fruits and Nuts Final Estimates Vegetables Final Estimates Broiler Hatchery	4	5 Dairy Products Peanut Prices	1 Cotton System Fats & Oils Grain Crushings Crop Progress	2	3 Broiler Hatchery Dairy Products	4 HOLIDAY	5 Peanut Prices	
	8	9 Field Crops Final Estimates Potatoes & Sweet Potatoes Final Est Rice Stocks Final Estimates Stocks of Grain, Oilseeds, & Hay Final Estimates	10 Broiler Hatchery	11 Hogs and Pigs Final Est	12 Crop Production Crop Production - Ann. Grain Stocks Winter Wheat/Canola Seedings Cotton Ginnings Rice Stocks Peanut Prices Turkey Hatchery	8 Crop Progress	9	10 Broiler Hatchery	11	12 Crop Production Milk Peanut Prices Turkey Hatchery	
	15 HOLIDAY	16	17 Broiler Hatchery	18	19 Cattle on Feed Peanut Prices	15 Crop Progress	16	17 Agricultural Chemical Usage - Fruits Broiler Hatchery Catfish Production	18	19 Cattle on Feed Peanut Prices	
	22 Cotton Ginnings Chickens and Eggs	23	24 Broiler Hatchery Coffee Cold Storage Milk Production Pecan Production	25 Livestock Slaughter Poultry Slaughter	26 Peanut Prices Peanut Stocks and Processing	22 Crop Progress	23 Chickens and Eggs Milk Production	24 Census: Watersheds Broiler Hatchery	25 Cold Storage Livestock Slaughter Poultry Slaughter	26 Farm Production Expenditures Peanut Prices Peanut Stocks and Processing	
	29 Egg Products	30 State Stories	31 Agricultural Prices Cattle Broiler Hatchery Capacity of Refrigerated Warehouses Sheep and Goats			29 Egg Products Crop Progress	30	31 Agricultural Prices Broiler Hatchery			
June	Fats & Oils Grain Crushings Crop Progress					Fats & Oils Grain Crushings					
	10 Crop Progress	11	12 Crop Production Broiler Hatchery	13	14 Peanut Prices Turkey Hatchery	9	10 Crop Production Cotton Ginnings	11 Broiler Hatchery	12	13 Cost of Pollination Peanut Prices Turkey Hatchery	
	17 Potato Stocks Crop Progress	18	19 HOLIDAY	20 Broiler Hatchery Livestock Slaughter	21 Cattle on Feed Milk Production Peanut Prices	16 Census of Aquaculture	17	18 Broiler Hatchery Potato Stocks	19 Livestock Slaughter Milk Production	20 Cotton Ginnings Cattle on Feed CE: Barley, Oats, Wheat Chickens and Eggs National Hop Report North American Potatoes Peanut Prices	
	24 Chickens and Eggs Poultry Slaughter Crop Progress	25 Cold Storage	26 Broiler Hatchery Peanut Stocks and Processing	27 Hogs and Pigs	28 Acreage Grain Stocks Rice Stocks Agricultural Prices Egg Products Peanut Prices	23 Hogs and Pigs Cold Storage Poultry Slaughter	24	25 HOLIDAY	26 Broiler Hatchery	27 Peanut Prices Peanut Stocks and Processing	
						30 Egg Products	31 Agricultural Prices				
July											
December											



12:00 PM Principal Federal
Economic Indicator Release



12:00 p.m. Release



3:00 PM Principal Federal
Economic Indicator Release



3:00 p.m. Quick
Stats Release



4:00 p.m. Release

Remaining reports are
issued at 3 p.m.

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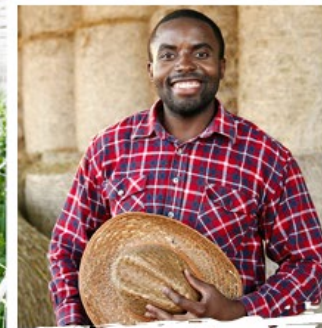
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What We Do

- External Project Agreements
- Consultation
- Research and Development



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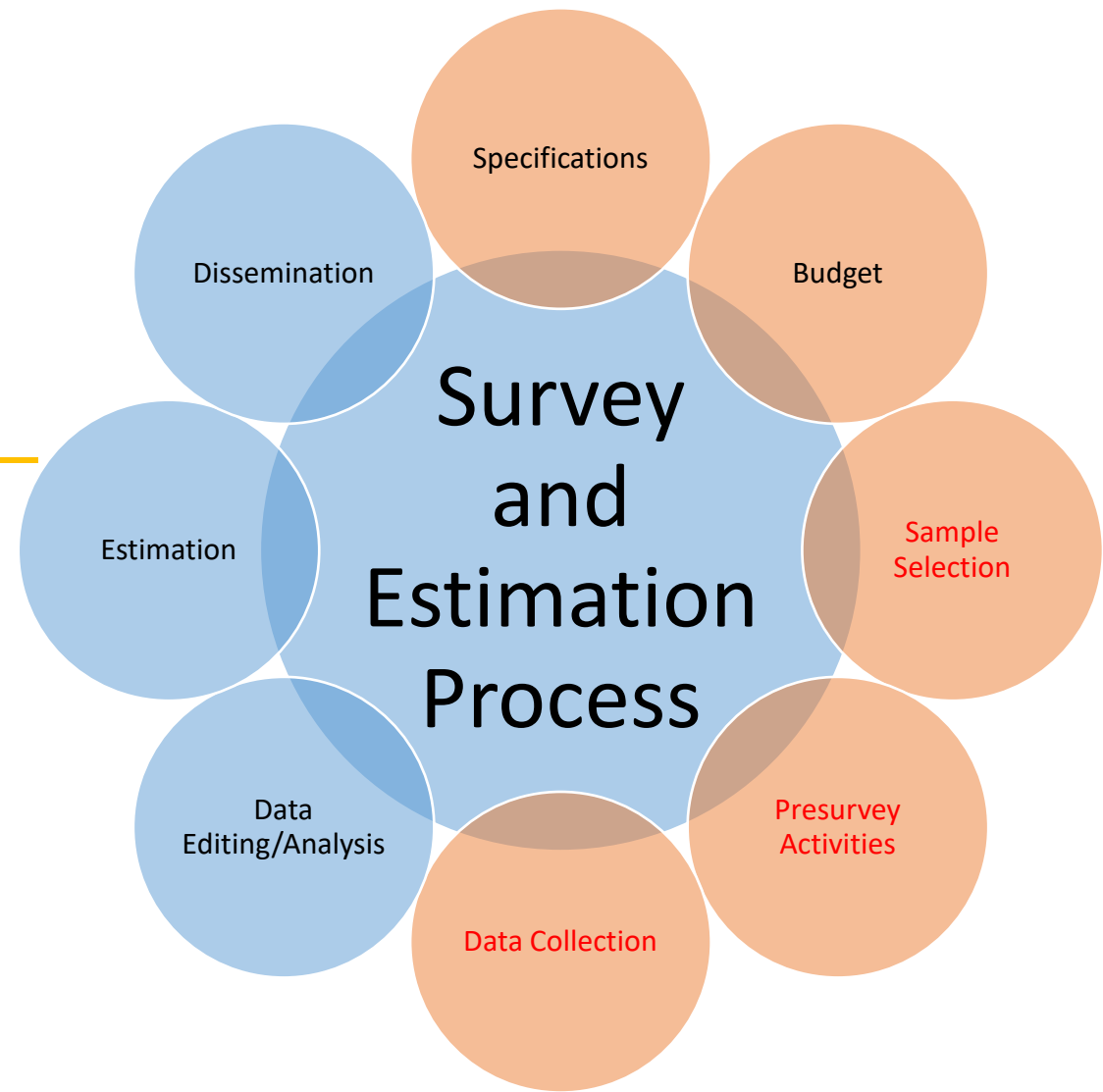
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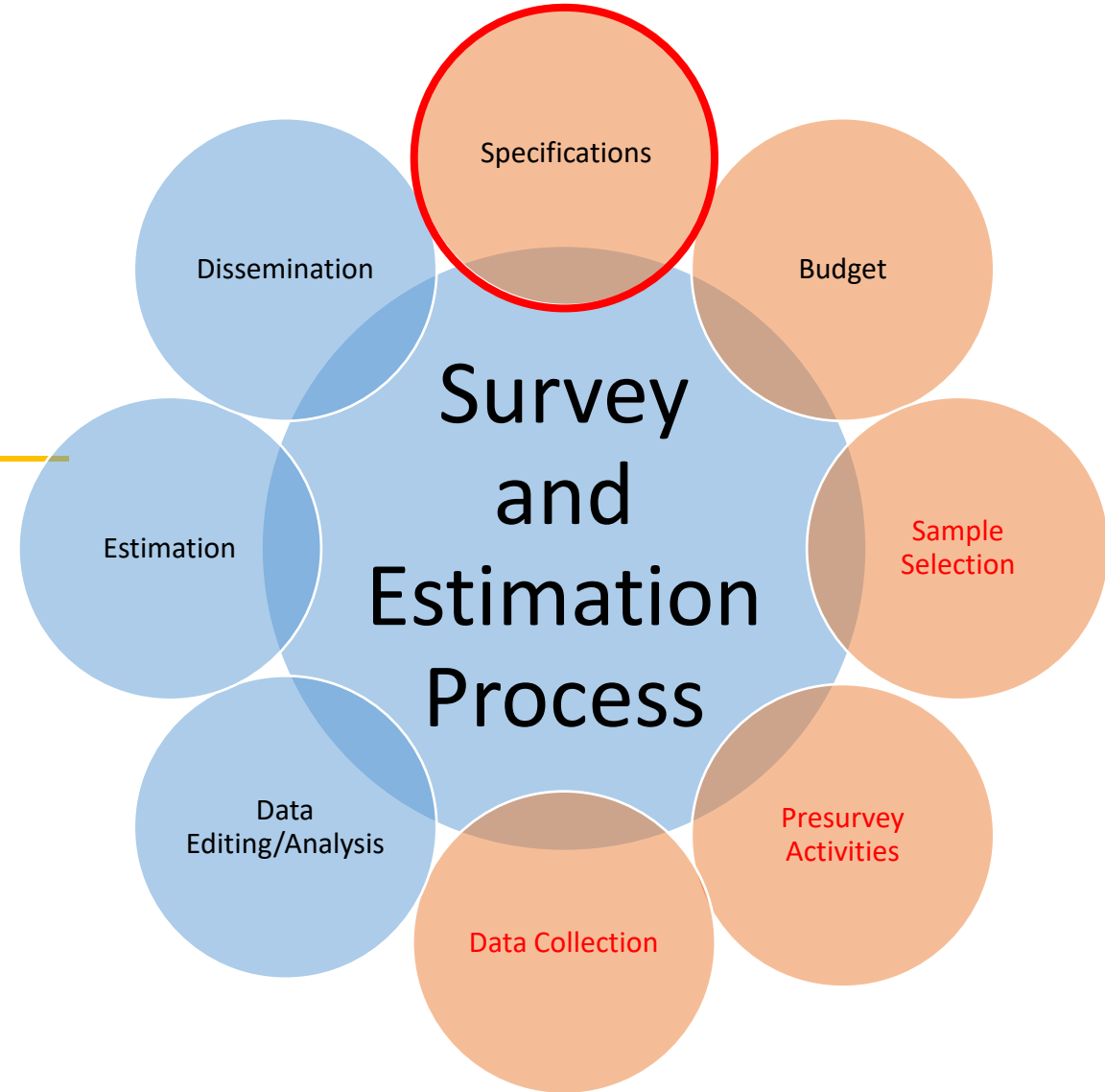
How We Do It

Preparation is 70% of the work.....
Execution is 30%!



Specifications

- Survey development starts with a plan
- Provide a solid understanding of what we want to achieve in producing agricultural statistics
- Manage and document change, define and organize tasks, and schedule activities



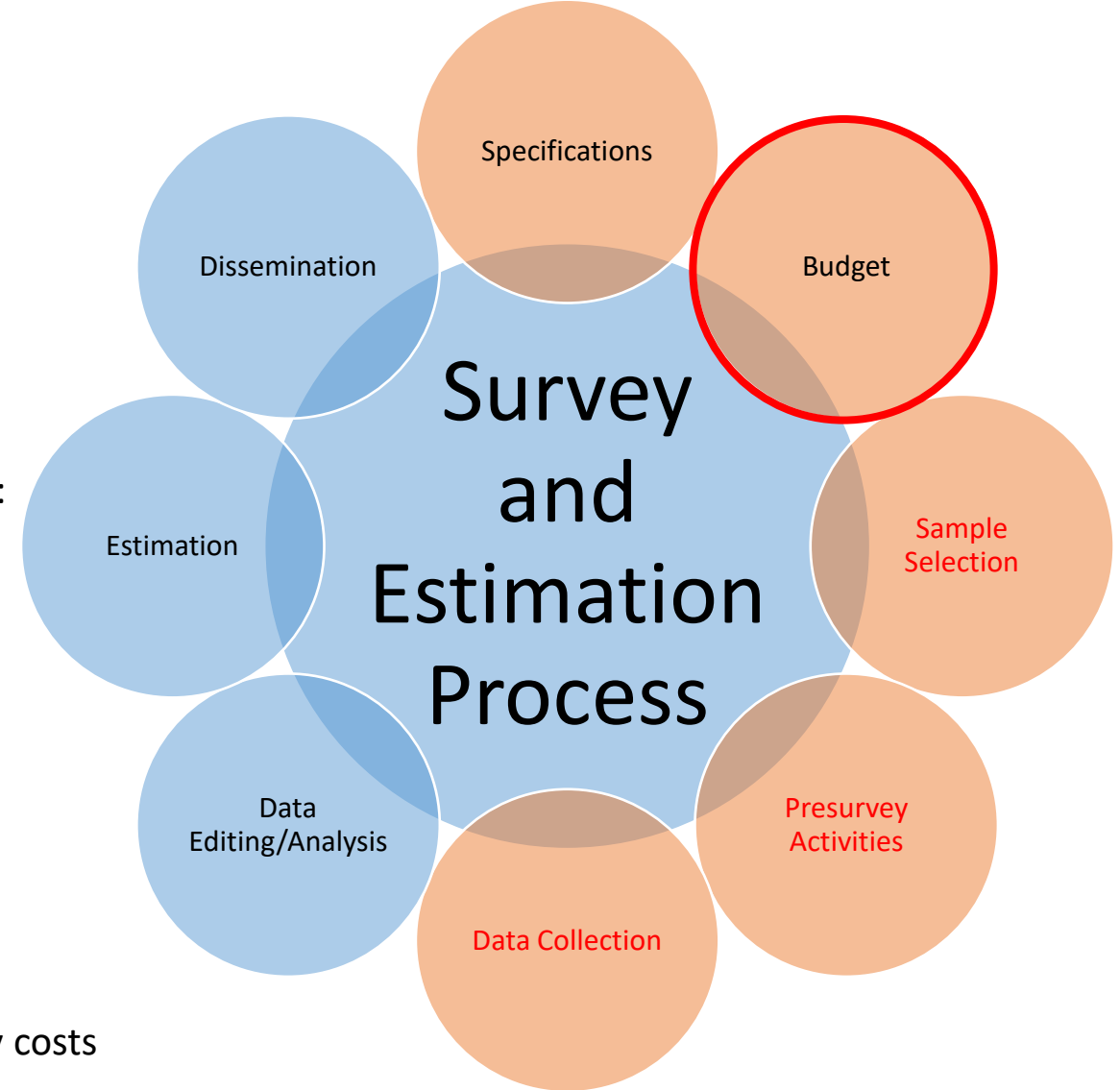
Budget

Each survey and census requires its own budget and includes:

- Staffing and training needs
- Costs of data collection
- Costs associated with system maintenance and development

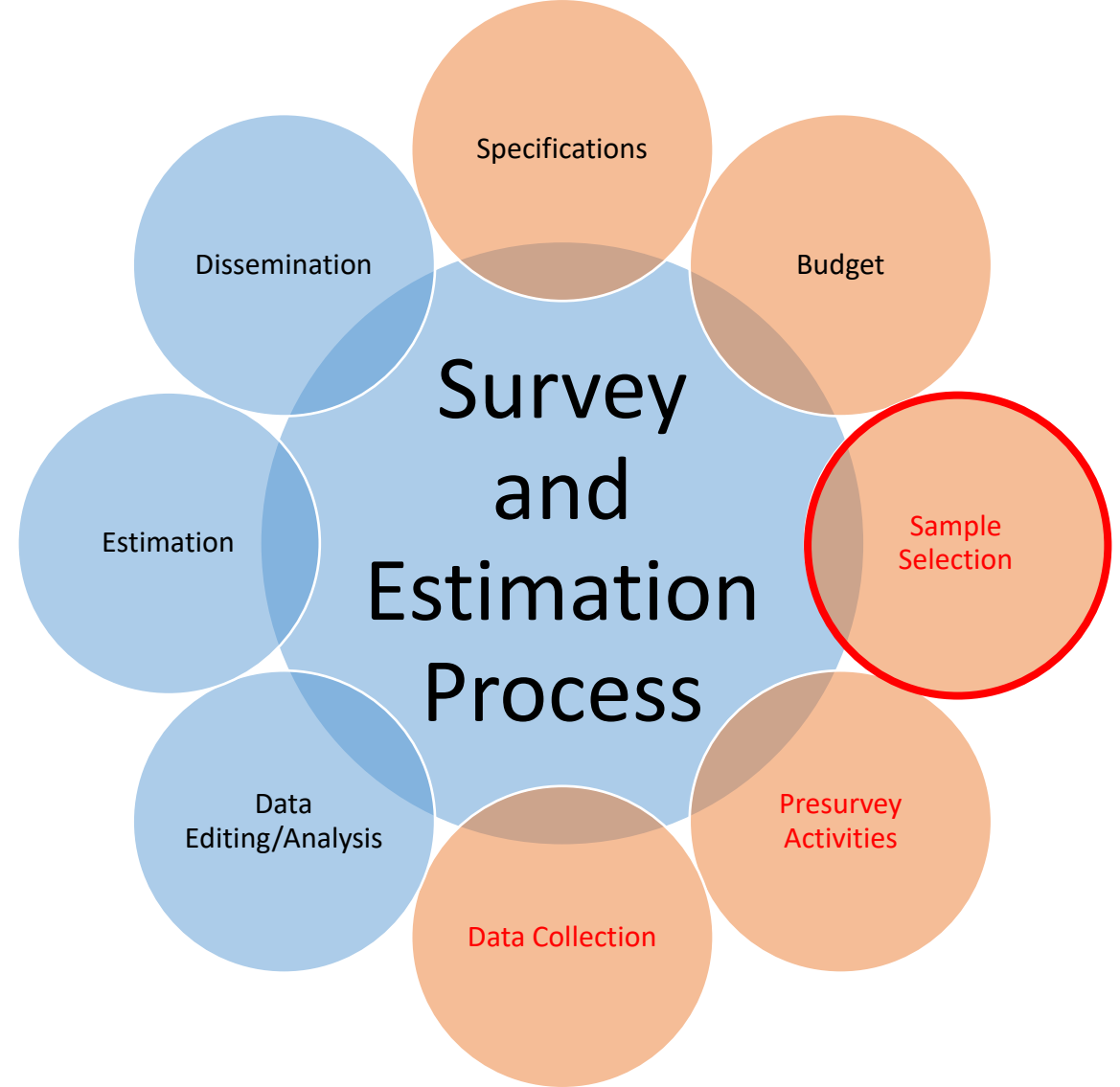
Dependencies include:

- Length, complexity, and frequency of the survey
- Sample size/number of interviewers involved
- Data reporting needs are the biggest drivers of survey costs
- Reluctance of respondents to participate also has significant influence on costs



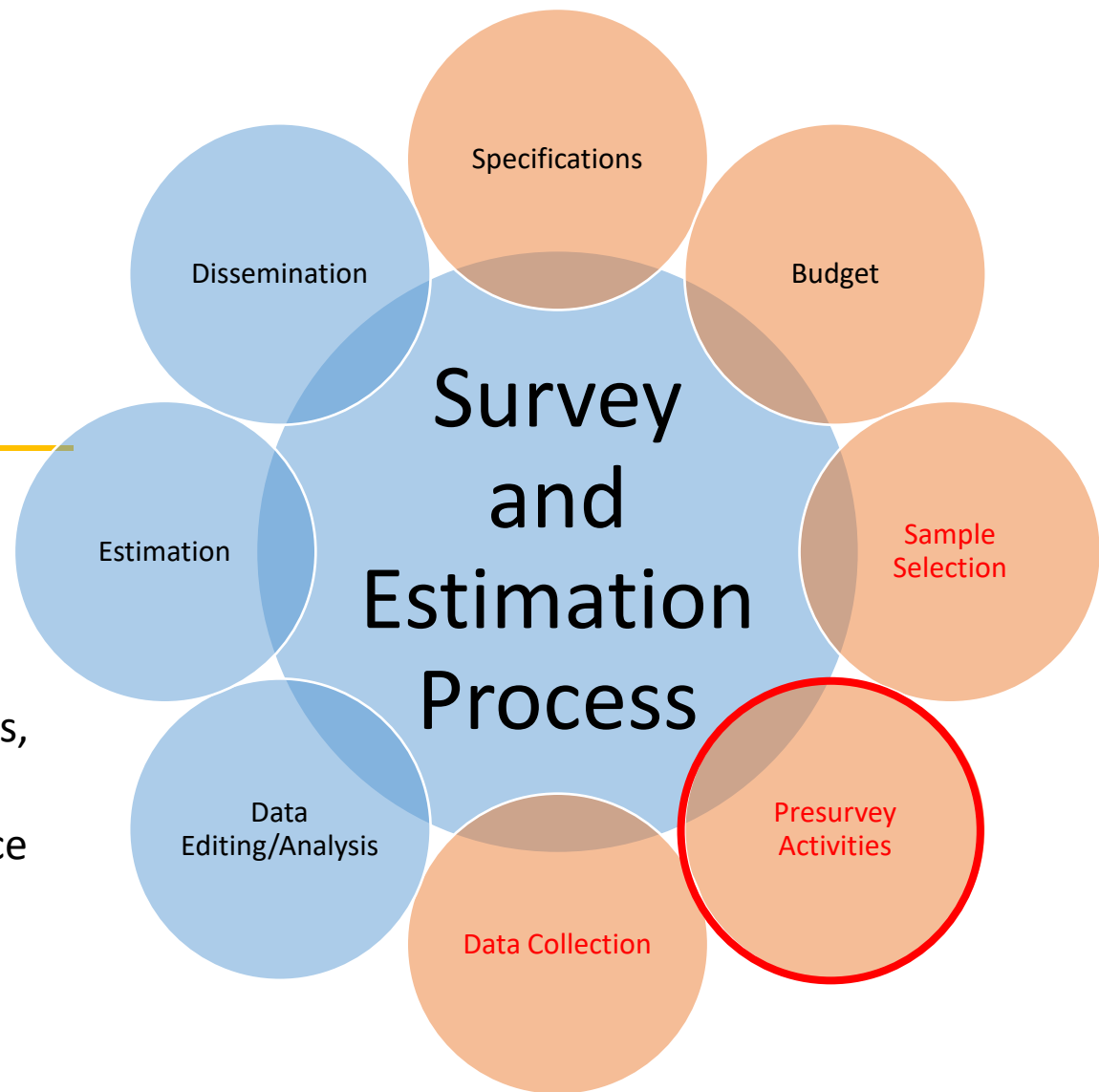
Sample Selection

- NASS maintains a list of all active farmers and producers in the U.S. and their characteristics (such as land in farms, number of animals, value of production)
- NASS uses a wide variety of sampling techniques based on those characteristics.
- Completeness of this list frame is critical and is the goal
 - Area sampling frame is used to measure the level of incompleteness of the list.



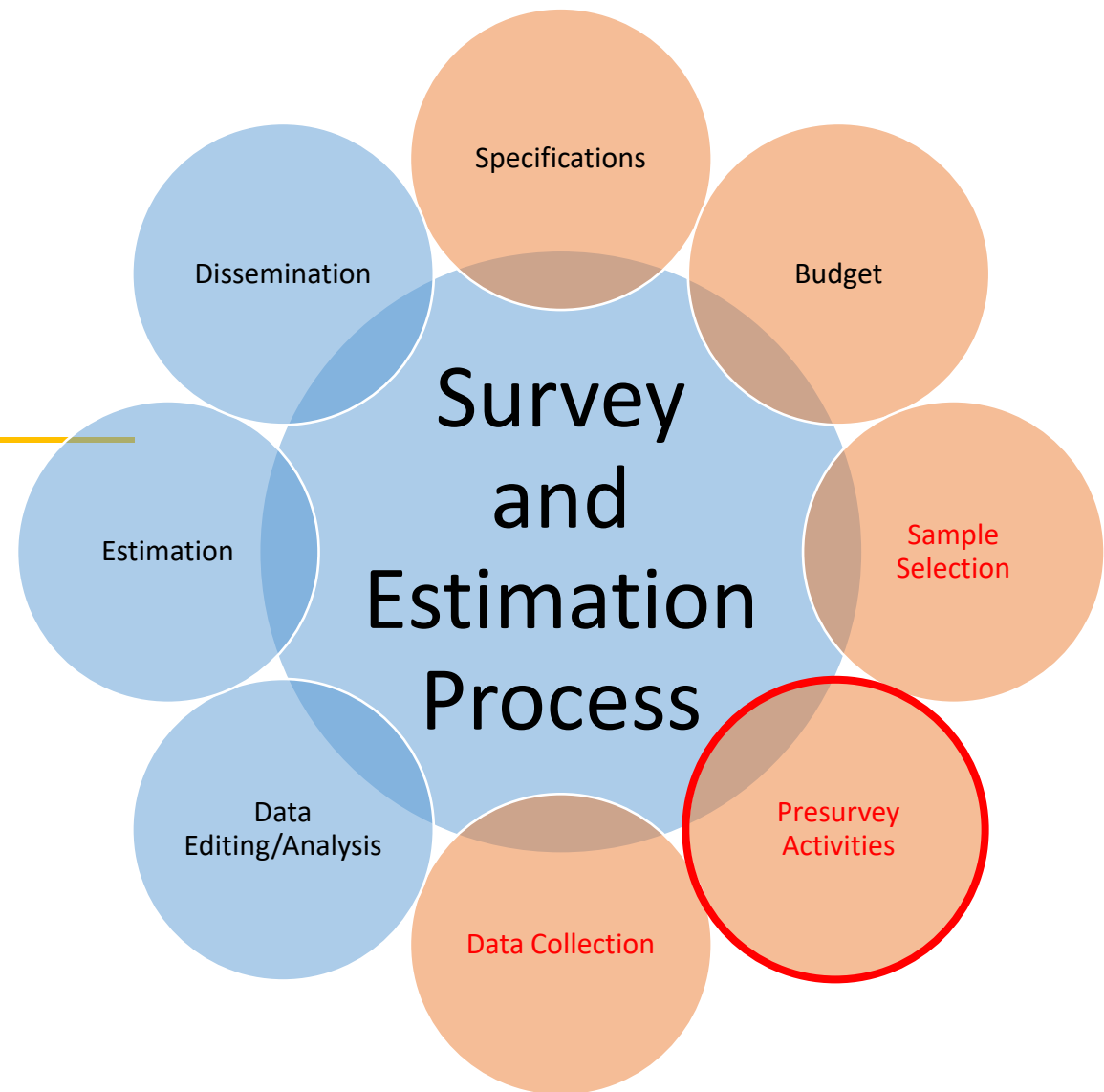
Presurvey Activities

- Prepare Survey Materials
 - Questionnaire Design
 - Develop outreach materials to include in our data collection materials
 - Use press releases, webinars, twitter chats, radio, testimonials, and live streaming of report releases to highlight the importance of responding to our surveys
- Training
 - Develop standards and procedures for interviewers to follow.
 - Hold national and regional workshops to train on these standards and procedures.



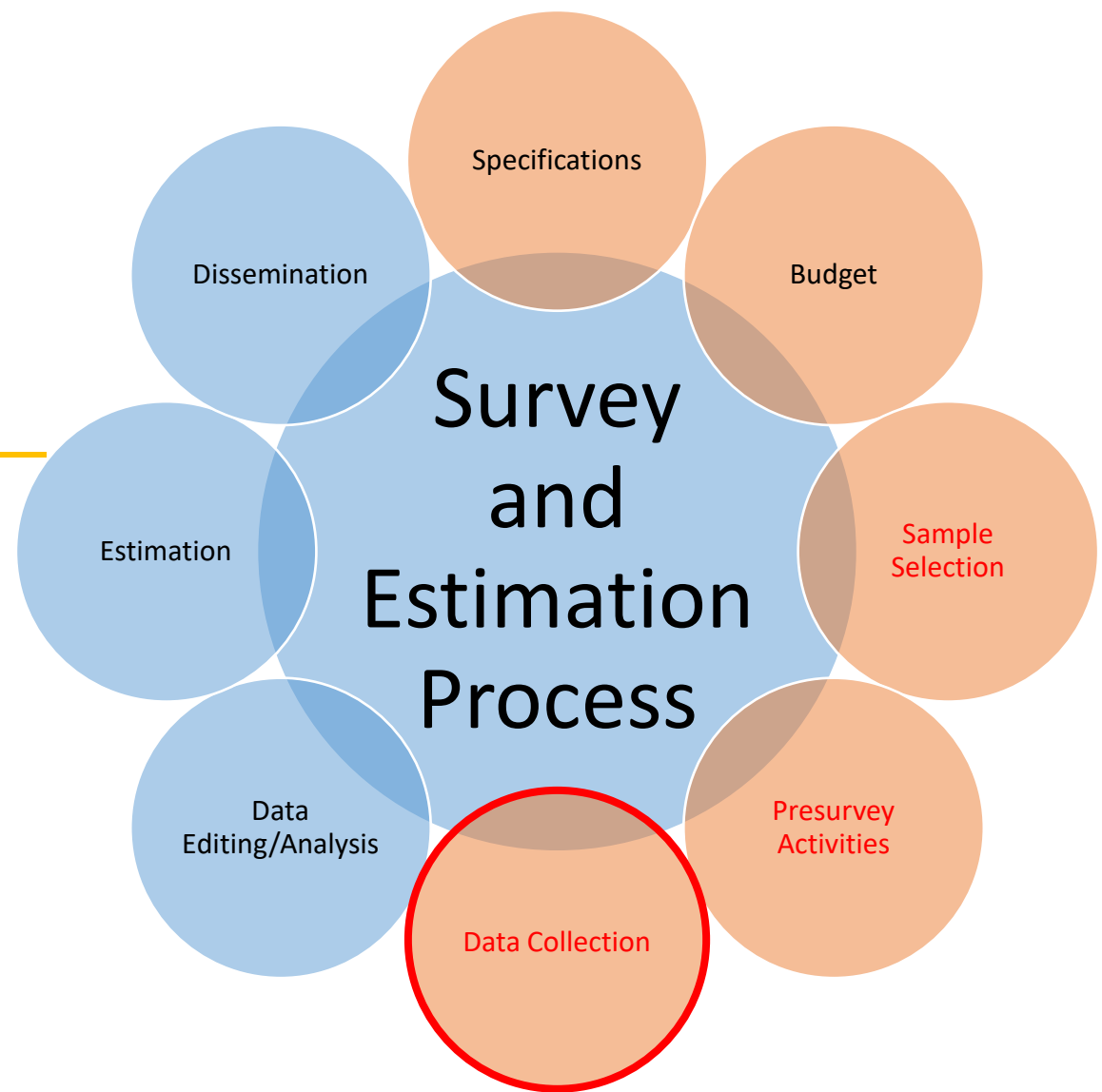
Presurvey Activities

- Sample Review
 - Comments
 - Reporting Agreements
 - Permanent Enumerators
 - Survey Coordination



Data Collection

- Monitor response rates and costs near real time
- React to any situations that arise
- Adjust data collection strategies as needed



CENSUS VS SURVEY

What We Do Differently

Census

- ALL known farms counted (about 2 million farms)
- Conducted every 5 years
- Response is mandatory and required by law
- Comprehensive instrument collecting required crop acreages & production, livestock inventories, expenditures, demographic characteristics plus frame modules
- Planning and content testing begins immediately following completion of previous Census.

Survey

- Sample of farms based on specific characteristics
- Data collection weekly, monthly, quarterly, or annual based on needs
- Response is generally voluntary
- Surveys generally contain content related to one specific topic or area – crops, livestock, economics, chemical use, etc.
- Regular specifications process to review content and make changes

Current State Analysis

- Almost all surveys are voluntary in nature
- Reluctance to participate due to the sensitivity and complex economic survey data collected
- Value of reporting.....What's in it for me?
- Adoption of technology to increase self-reporting
- Survey Fatigue
 - Large, diverse farms sampled frequently
 - Length of some surveys
 - Other Agencies/Private Industry conducting surveys



Current State Analysis

- Adoption of technology by enumerators
- Electronic Data Collection in Rural Areas with limited broadband.
- Converting complex tables from paper- based questionnaires to self reporting web forms
- Aging systems
- Complexity of our business processes
- Pivoting successfully when natural disasters, covid pandemics etc. occur



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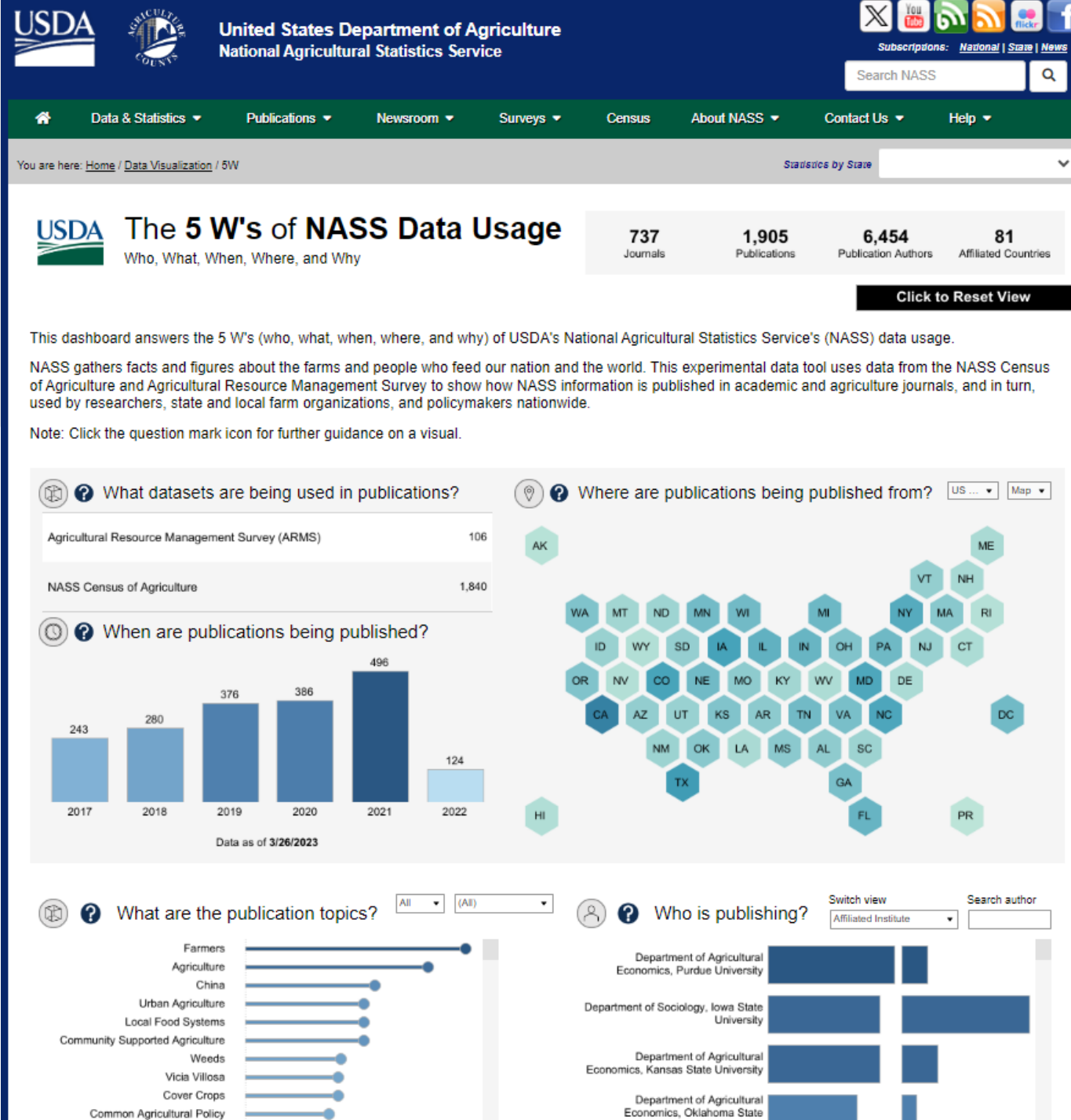
Going Forward: How NASS is communicating the value of reporting

Communicating the
value of reporting.....

https://www.nass.usda.gov/Data_Visualization/5W/index.php



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Going Forward: How NASS is Changing Data Collection Experience

Providing a more personalized
data collection experience for our
respondents.....

- Exploring CRMs to better capture two-way interactions with respondents (contact attempts, respondent comments, requested modes of contact etc.)
- Allow respondents a more active role in determining when and how we contact them (text, web, in person)
- Improving Survey Design
 - Omnibus questionnaires
 - Survey Methodologists
- Non-Edited Respondent Data (NERD)

Going Forward: How NASS is Changing Data Collection Business Processes

Balancing current demands for data with our need to modernize and introduce greater efficiency.....

Reimagined Enterprise Application for Data Ingestion (READI)

- Enterprise level data collection platform
- Graceful handoffs between data collection modes
- Dashboarding and robust analytics that allow for efficient survey management
- Adaptive Survey Design



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Going Forward: How NASS is Making Data Easier to Consume

Providing more tailored information
back to our respondents.....

Currently, field offices disseminate data relevant to their local communities.

Modernizing our system to make data easier to consume, including more advanced data visualizations.



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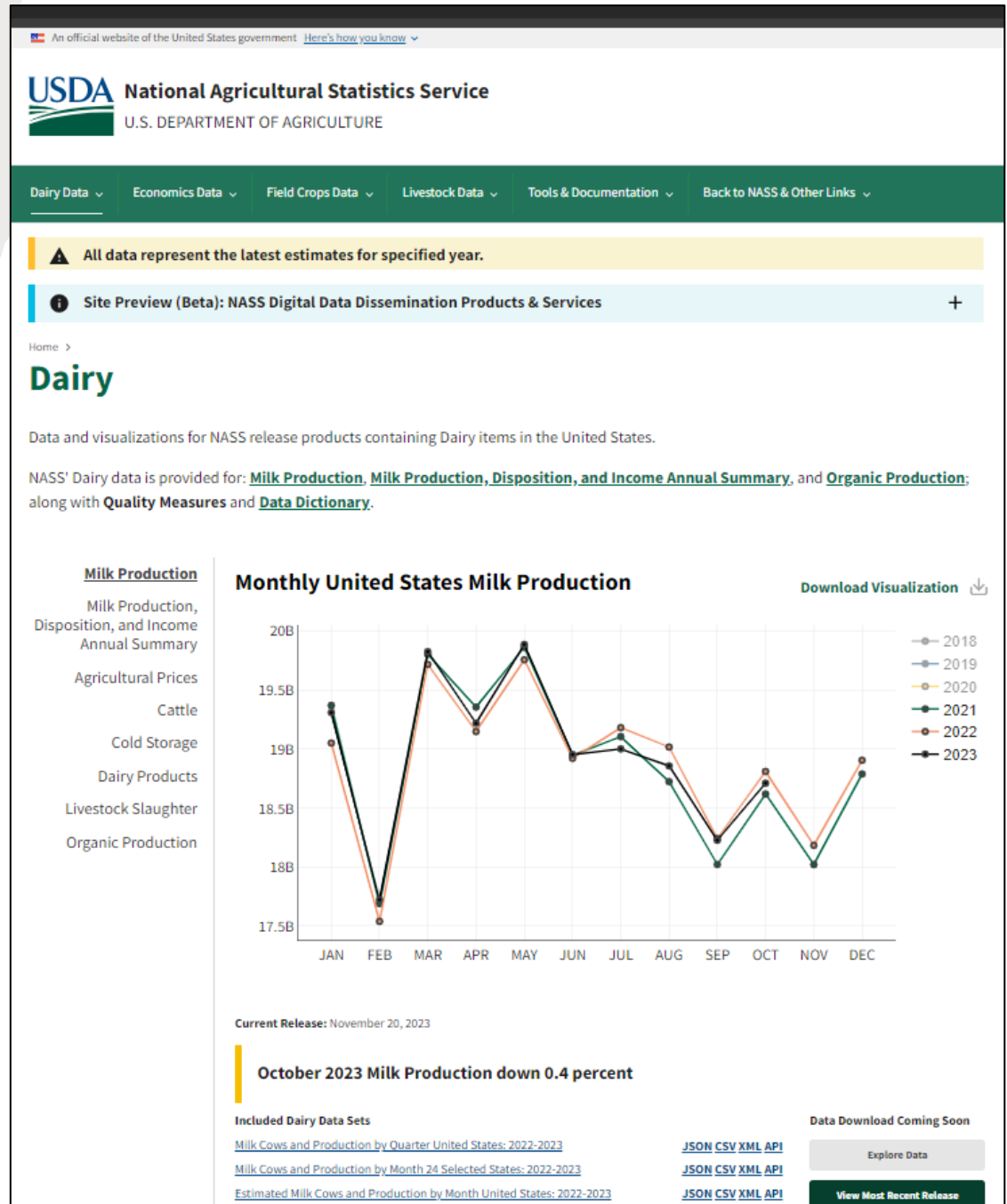
How NASS is Changing Data Collection Going Forward

Providing more tailored information back to our respondents.....

<https://data.nass.usda.gov/dairy/>



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How NASS is Changing Data Collection Going Forward

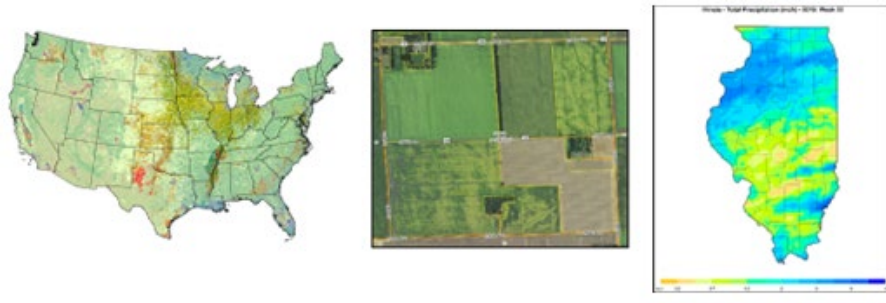
Increasing our focus on
non-survey data....

- Secondary Sourced Data
 - Administrative Data
 - Precision Ag
- Machine Learning
- Integrated Modeling and Geospatial Estimation System (IMAGES)

Integrated Modeling and Geospatial Estimation System (IMAGES)

Incorporating Non-Survey Data Sources, Modern Methods and Cloud Technology into NASS Infrastructure

Non-Survey Data Sources



CDL

FSA CLUs/578

Ancillary Data



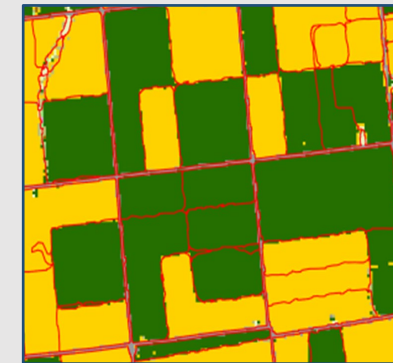
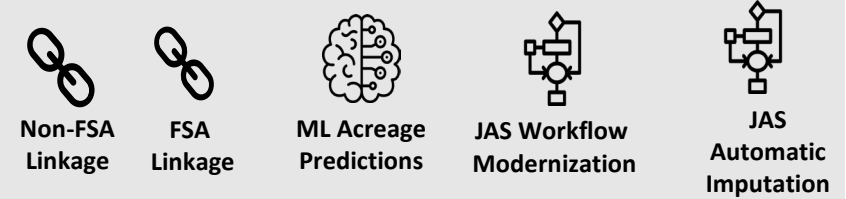
Modern Methods

Machine Learning
Workflow Automation
Advanced Statistical
Modeling



Cloud Environments

IMAGES Data and Methods



Crop Sequence Boundaries



PCDL

Census COOL System
Census Imputation
JAS Land Tool
JAMES
NACS
RDD Operational Capacity

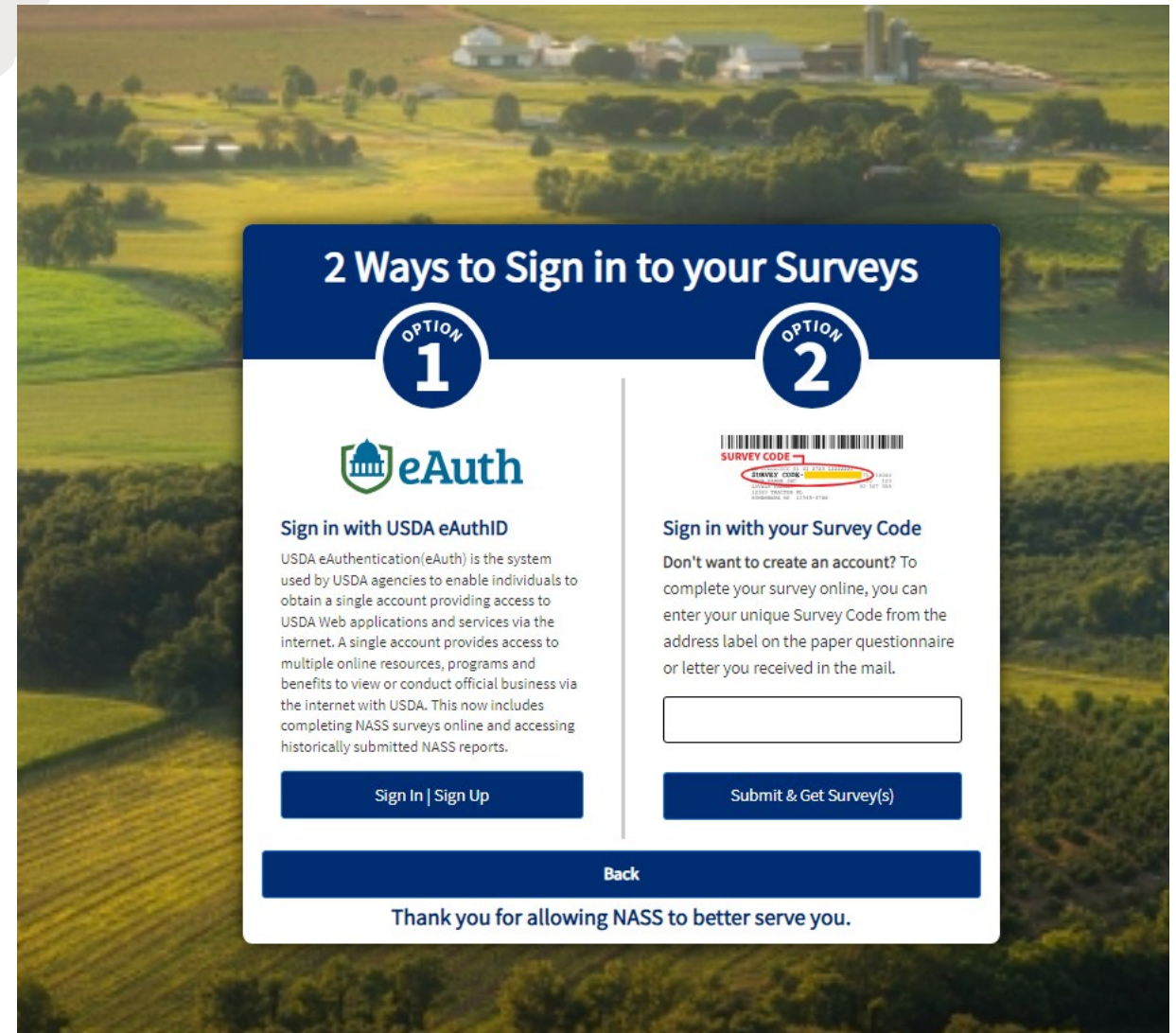


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How NASS is Changing Data Collection Going Forward

Continuing to cater to our respondents as their needs change...

- Offering sign-in options that fit our respondents needs for self-reporting



The screenshot displays a web interface for signing into NASS surveys. It features a blue header with the text "2 Ways to Sign in to your Surveys". Below this, there are two columns. The left column, labeled "OPTION 1", features the eAuth logo and text describing the USDA eAuthentication system. It includes a "Sign In | Sign Up" button. The right column, labeled "OPTION 2", shows a barcode and text explaining the Survey Code option. It includes a text input field for the Survey Code and a "Submit & Get Survey(s)" button. At the bottom, there is a "Back" button and a thank-you message: "Thank you for allowing NASS to better serve you."

2 Ways to Sign in to your Surveys

OPTION 1

eAuth

Sign in with USDA eAuthID

USDA eAuthentication(eAuth) is the system used by USDA agencies to enable individuals to obtain a single account providing access to USDA Web applications and services via the internet. A single account provides access to multiple online resources, programs and benefits to view or conduct official business via the internet with USDA. This now includes completing NASS surveys online and accessing historically submitted NASS reports.

[Sign In | Sign Up](#)

OPTION 2

SURVEY CODE

Sign in with your Survey Code

Don't want to create an account? To complete your survey online, you can enter your unique Survey Code from the address label on the paper questionnaire or letter you received in the mail.

[Submit & Get Survey\(s\)](#)

[Back](#)

Thank you for allowing NASS to better serve you.

How NASS is Changing Data Collection Going Forward

Continuing to cater to our
respondents as their needs
change...

- Providing tools to assist our producers as they make decisions for their operation
 - Monitoring and assessing agricultural disasters
 - Using satellite imagery

Summary

Strengths

- History
- Data and processes
- Reputation/Reliability
- R&D
- Partnerships
- Geographic coverage

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Weaknesses

- Infrastructure
- Risk tolerance
- Adaptability
- Aging farm population (losing champions)

W

Opportunities

- Value
- Passive data
- New partnerships
- Strong demand for data

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Threats

- Budget
- Competition
- Subject matter expertise
- Shrinking survey population
- Everybody is doing surveys

T

THANK YOU!

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