Census Geographic Programs
An Update

- **Geographic areas**

- **TIGERweb**

- **Count Question Resolution program**

- **Geographic data products**

- **Geographic Support System Initiative**

New TIGER/Line Shapefiles

- ## 2011 TIGER/Line
  - Legal boundary changes as of January 1, 2011
  - 2010 Statistical Areas
  - 2010 School Districts
  - Address Range/Feature Name shapefile (better geocoding!)

- ## 2010 TIGER/Line with UAs
  - 2010 Urbanized Area boundaries

- ## 2010 TIGER/Line with Pop and Housing data
  - Includes block-level 2010 population and housing unit counts

- http://www.census.gov/geo/www/tiger/tgrshp2010/tgrshp2010.html

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New TIGER Products

- ## 2010 KMLs
  - For use with Google Earth or Google Maps
  - 2010 Census Geography (counties and census tracts available now)
  - Limited attribution (GEOIDs)
  - You can help!
  - http://www.census.gov/geo/www/tiger/kml/kml.html

- ## Cartographic Boundary Files
  - Generalized boundary files suitable for small-scale mapping

New Census Map Products

REFERENCE MAPS

MAJOR ACQUISITIONS OF TERRITORY BY THE U.S. MAP
OCT 2011

AMERICAN INDIANS / ALASKA NATIVES OF THE U.S. WALL MAP
NOV 2011

CENSUS REGIONS AND DIVISIONS MAP
NOV 2011

COUNTIES OF THE U.S. WALL MAP
NOV 2011

COUNTY SUBDIVISION OUTLINE MAPS
APR – AUG 2012

URBANIZED AREA/URBAN CLUSTER REFERENCE MAPS
OCT 2012

COUNTY SUBDIVISION WALL MAPS
DEC 2012

113th CONGRESSIONAL DISTRICT MAPS
FEB – MAY 2013

CORE BASED STATISTICAL AREAS MAPS
JUL – AUG 2013

STATISTICAL THEMATIC MAPS

APPORTIONMENT OF THE U.S. HOUSE OF REPRESENTATIVES MAP
DEC 2010

PERCENT CHANGE IN POPULATION BY COUNTY: 2000 TO 2010 MAP
FEB – MAR 2011

TOTAL POPULATION BY COUNTY MAP
FEB – MAR 2011

MEAN CENTER OF POPULATION MAP
APR 2011

MEDIAN CENTER OF POPULATION MAP
APR 2011

POPULATION DENSITY BY COUNTY MAP
MAY 2011

RACE AND HISPANIC ORIGIN POPULATION DENSITY OF THE UNITED STATES MAP
OCT 2011

POPULATION DENSITY IN THE UNITED STATES MAP
OCT 2011

"NIGHT TIME" POPULATION DISTRIBUTION MAP
DEC 2011

POPULATION PROFILE MAPS
DEC 2011

2010 Census Results - United States and Puerto Rico
Population Density by County or County Equivalent

2010 POPULATION DISTRIBUTION IN THE UNITED STATES AND PUERTO RICO

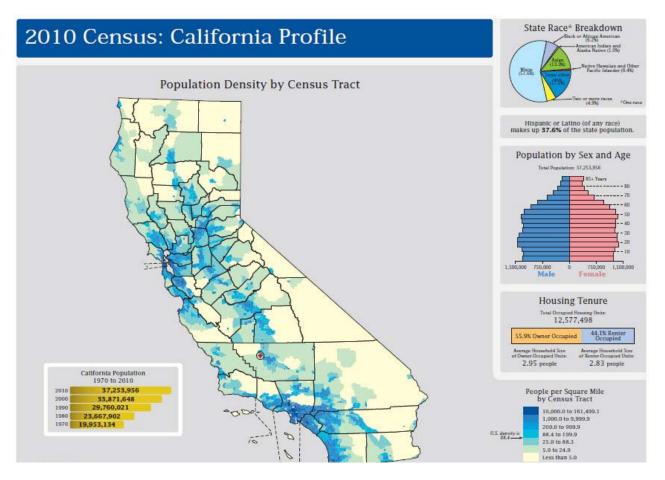# 2010 State Profiles

2010 Census: California Profile

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- **Geographic Support System Initiative**

The Geographic Support System Initiative

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California State Data Center Meeting
May 31, 2012

Census Geographic Support – Major Initiatives Over Time

For the 1990 Census – Introduced TIGER (**T**opologically **I**ntegrated **G**eographic **E**ncoding and **R**eferencing system)

For the 2000 Census – Introduced the MAF (**M**aster **A**ddress **F**ile)

For the 2010 Census – conducted the MAF/TIGER Enhancement Program

For the 2020 Census – The GSS Initiative

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'Why' the GSS Initiative?

- Stakeholder and oversight recommendations:
  - The General Accountability Office, the Office of the Inspector General, and the National Academies of Science identified as issues:
    - *The lack of a comprehensive geographic update program between censuses*
    - *Associated negative impact on ongoing programs such as the American Community Survey, other current surveys, and small areas estimates programs*

Why the GSS Initiative?

- **A logical next step, building upon:**
  - ❑ Accomplishments of the MAF/TIGER Enhancement Program (MTEP)
    - ❑ MAF/TIGER Accuracy Improvement Project (MTAIP)
    - ❑ Improved positional accuracy of TIGER

  - ❑ Contributions of our partners
    - ❑ GIS files & imagery between 2003 to 2008 for MTAIP
    - ❑ 2010 Local Update of Census Addresses (LUCA) Program

  - ❑ The recommendations of our stakeholder and oversight communities

- **Supports a targeted Address Canvassing in preparation for the 2020 Census**

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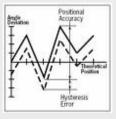Census
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What is the GSS Initiative?

Address Updates

123 Testdata Road
Anytown, CA 94939

Lat 37 degrees, 9.6 minutes N
Lon 119 degrees, 45.1 minutes W

Quality Measurement

Street/Feature Updates

- An integrated program consisting of:
  - ❑ Improved address coverage
  - ❑ <u>Ongoing</u> address and spatial database updates
  - ❑ Enhanced quality assessment and measurement

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Major Components of 2010 Census Address List Development

2010 Address Canvassing Facts

- Number of housing unit addresses that needed verification: **145 million**

- Number of census workers hired for Address Canvassing: **140,000**

- Number of hand-held computers used: **151,000**

- Number of local census offices that managed operations: **151**

- Dates of operation: **March 30 - Mid-July 2009**

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Goal: A Shift in Focus for the 2020 Census

- From a **complete** Address Canvassing to a **targeted** Address Canvassing
  - Hinges on establishing an acceptable address list for each level of government

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Why a "Targeted" Address Canvassing?

- $$$! It is **<u>VERY</u>** expensive
  - Field an **ARMY** of address canvassers
  - "Walk" **EVERY** street in the nation…
- Goal: developing on-going update and change detection processes
- Result: "Target" only areas with uncertainty
  - Quality of Addresses
  - Currency of Addresses

Goals of the GSS Initiative

Address improvement: explore methodologies to achieve complete coverage and a current address list

Feature improvement: ongoing update of the street network and attributes to improve the matching of addresses to their correct geography

Quality improvement: broaden quality assessments and provide quantitative measures

Improved Partnerships: strengthen existing and develop new partnerships

Address Improvement Goals

- Complete and current address coverage

- Additional emphasis on change detection

- Expanded address sources for MAF update, especially in areas without city-style addresses

- American Community Survey (ACS) and current surveys need current and complete coverage

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Feature Improvement Goals

- Ongoing street network and attribute updates

- Best available data from partners and commercial files

- Imagery for change detection and source evaluation

Quality Assurance Goals

1: Establish quantitative measures of address and spatial data quality

⬇

2: Assign Quality Indicators to MAF/TIGER data

➡

Existing MAF/TIGER Data

3: Monitor and Improve the quality of the:

Geographic products output from the MTDB

IT processes for updating the MTDB

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Improved Partnerships

New Tools

Volunteered Geographic Information (VGI)

Web-based Address Management Tools

Data upload systems

TIGERweb

Partners

Enhanced collaboration

Expand Existing Partnerships

Engage New Partners

New and Enhanced Programs

Utilize new tools and programs to acquire address and spatial data in the most efficient and least intrusive ways

Enhanced Feedback

Build on and Expand MTAIP Feedback for Spatial Features

Address Feedback TBD, but adhering to Title 13 confidentiality laws

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Who are the stakeholders?

- U.S. Census Bureau
- Other federal agencies (U.S. Postal Service, U.S. Geological Survey, Environmental Protection Agency)
- Tribal, State, County, and Local governments
- Commercial data providers
- National Advocacy Groups, such as NSGIC, URISA, NENA, and NAPSG

Partnerships are Key!

- You are the authoritative sources for address and spatial data!

- Expanding our Partnerships is Critical
  - Key step towards establishing an accurate and up-to-date address list

What's in it for you?

- **Improved** address and feature coverage
  - support current survey samples, including the American Community Survey.
- More **current** data and **improved** process flows
  - should minimize the impact of programs like LUCA
- Taxpayer **savings**
- A more **accurate** 2020 Census
  - with all the benefits therein (increased funding, etc.)
- Our evaluations & feedback may help you improve **your** data.

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Using your Data

- Fiscal Year 2012
  - Process Development
- 2013-2020:
  - Change detection
  - Completeness/coverage testing
  - **Updates to the MAF/TIGER System**

Minimum Address Assumptions

- Sample rules for acceptable addresses:
  - All required fields must have data
    - Address Number, Street Name, and ZIP Code OR Tract/Block OR City/State

  - Must meet predefined business rules
    - For example, ZIP Code is numeric, five digits

  - Unit designations

  - Minimum Address/Feature guidelines will be issued soon

Address Metadata

- In addition to the Federal Geographic Data Committee (FGDC) Address Standard metadata, we would like to collect:

  – What is the source of the address (assessor, utility, emergency management)?

  – Is the address used for mailing and/or locating the structure?

  – Is the address for a Group Quarters (prison, college dorm)?

  – What type of structure does the address represent (single-family home, trailer, multi-unit apartment building)?

  – Is it a commercial, residential, or other type of address?

  – When was the house built and/or addressed?

Feature Requirements

Forthcoming…

Check our GSS-I webpage for updates as they occur:
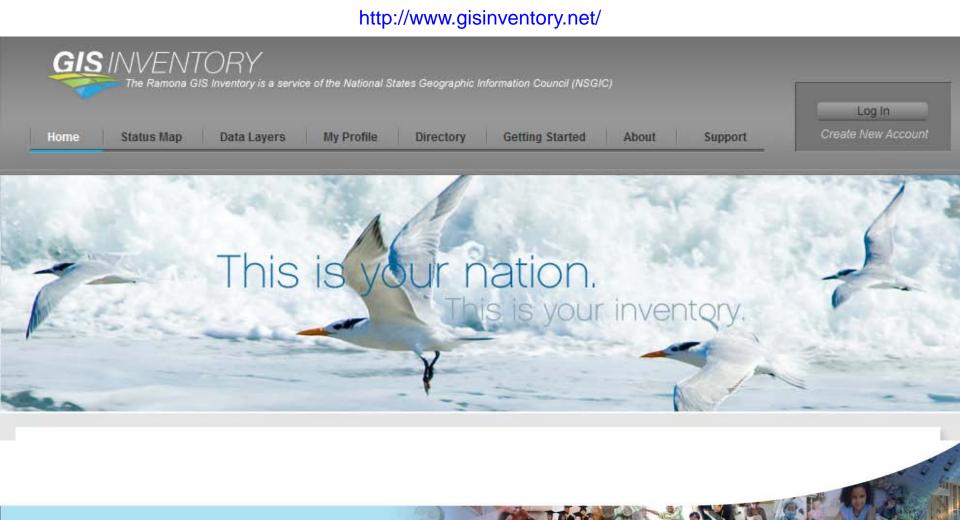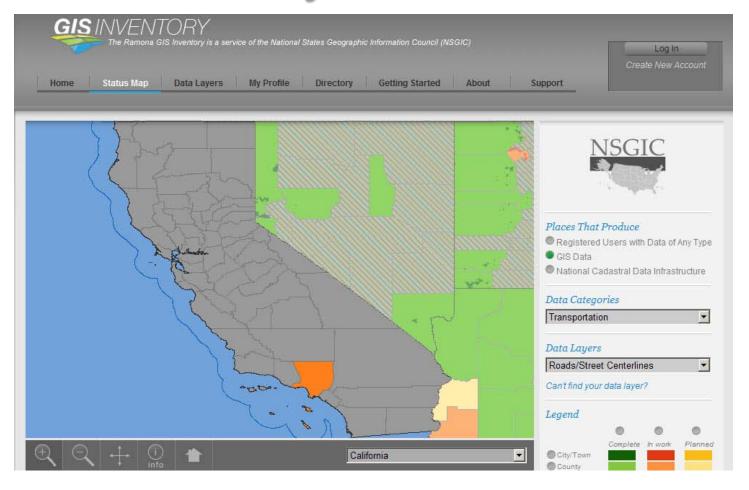
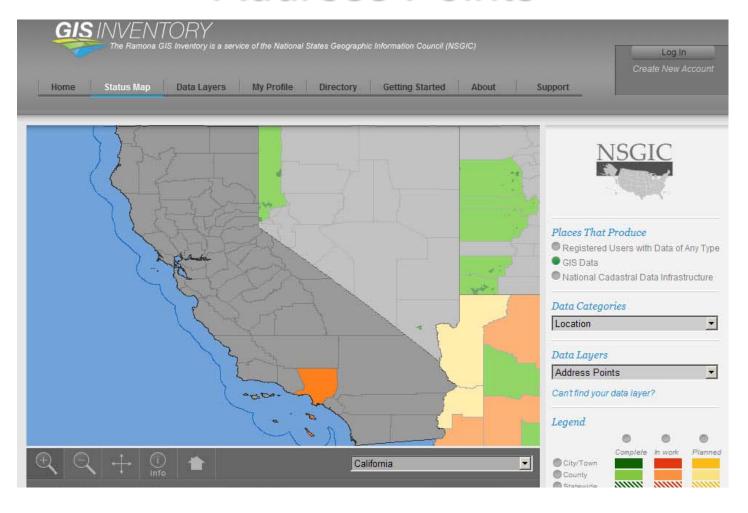*http://www.census.gov/geo/www/gss/*

GIS Inventory (aka Ramona)

http://www.gisinventory.net/

GIS Inventory: California Status

Address Points

County Consolidated BAS
Boundary & Annexation Survey

- BAS: January 1st of each year

- Many entities still participating on paper boundaries, *relatively* correct

- (Most) counties can participate digitally

- Have you reviewed the boundaries for accuracy? (MTAIP Realignment!)
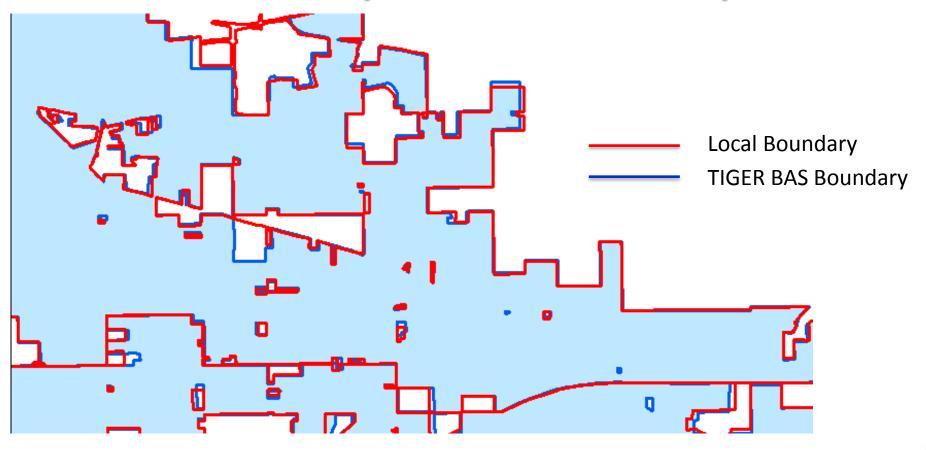

2013 C-BAS sign-up deadline: 8/1/12

County Consolidated BAS
Boundary & Annexation Survey

Local Boundary

TIGER BAS Boundary

Action Items:

1) Create a Ramona Account and register your data (www.gisinventory.net)

2) Counties: Establish a County Consolidated BAS with us

3) Review the ***FGDC Address Standard*** and get your data in shape…
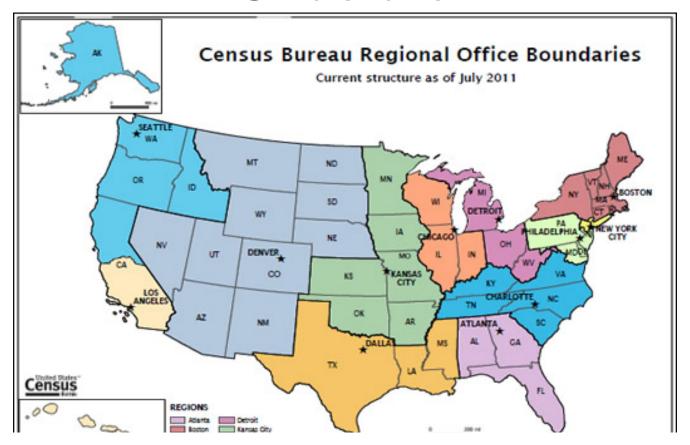
Summary

- Goals of the GSS initiative
  - <u>Ongoing</u> update of the MAF/TIGER database
  - Improve address coverage, feature coverage, and quality in the MAF/TIGER database
  - Facilitate a targeted Address Canvassing operation for the 2020 Census
- Aligns with our commitment to provide high quality products and data
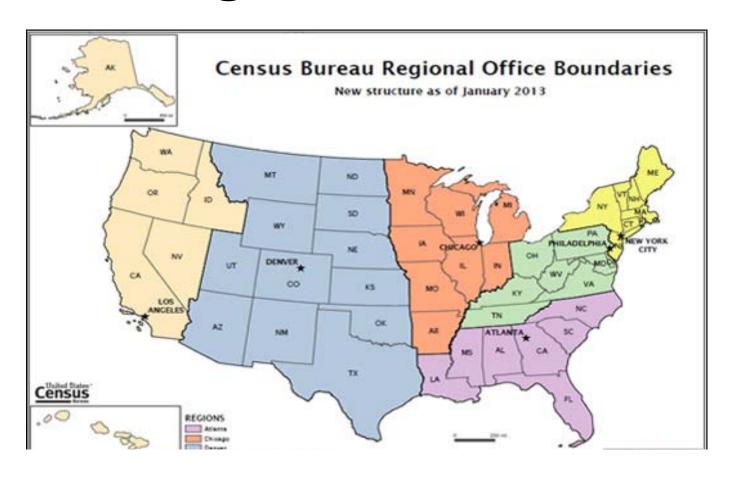
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Current Census Regional Office Structure

Census Bureau Regional Office Boundaries
Current structure as of July 2011

Future Regional Office Structure

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May 31, 2012

http://www.census.gov/geo/www/gss/index.html