Evolution of the US Census: Politics, Society, Opportunity, and Innovation (A Mostly Oral History)

> Howard Hogan, Ph.D. Chief Demographer (Ret.) U.S. Census Bureau

Presented to Washington Statistical Society November 21, 2019 "The Census isn't about anything important,

except money and power"

Vince Barabba, circa 1980

"Never do anything for the first time."

Unofficial Census Motto according to Eli Marks

Overview of Course

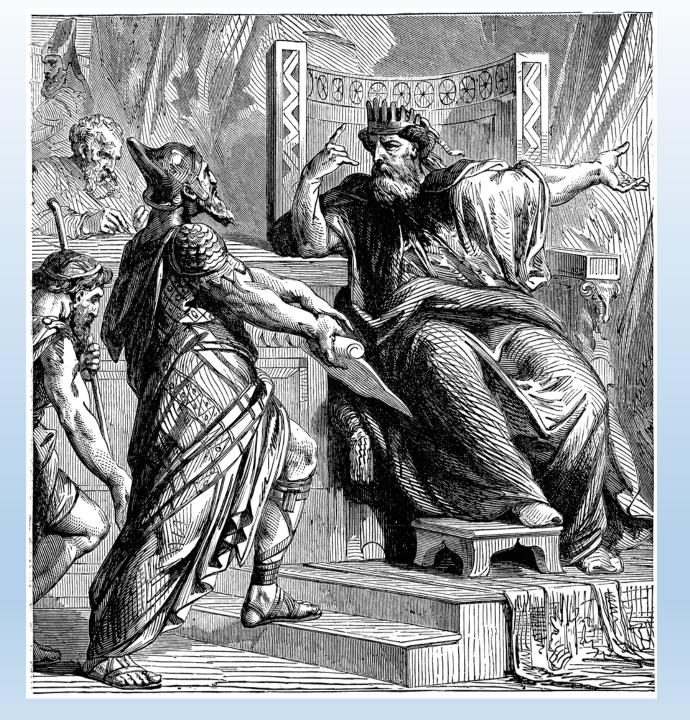
- Important Censuses in History
- Getting Started: 1790-1840
- Becoming Scientific: 1850-1900
- Transition: 1902-1930

Overview

- The Hanson Years: 1940 1970
- Modernizing the Census Again: 1980-2010
- Undercount Wars and their fall out
- Saving Lives

Important Censuses in History

- Israelite Census
- Census & Censors in Rome
- The Doomsday Book

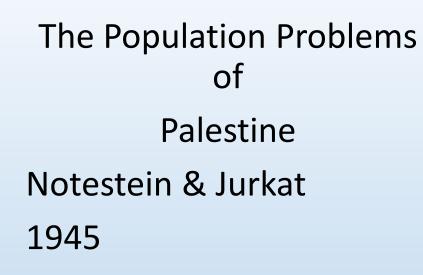


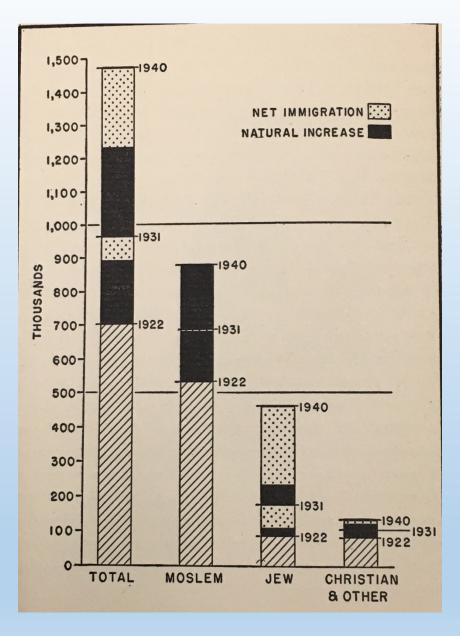


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Important Censuses in History

- Census of Hispaniola: 1584
- Jean Talon & 1666 Census of Quebec
- 1932 Census of Lebanon
- 1937 Census of the Soviet Union
- 1962/1963 Census of Nigeria





Getting Started: 1790-1840

- Constitution
- Census of 1790
 - Number of Households: 558,000
 - Number of marshals: 13
 - Number of households per marshal: ??

1790 Census

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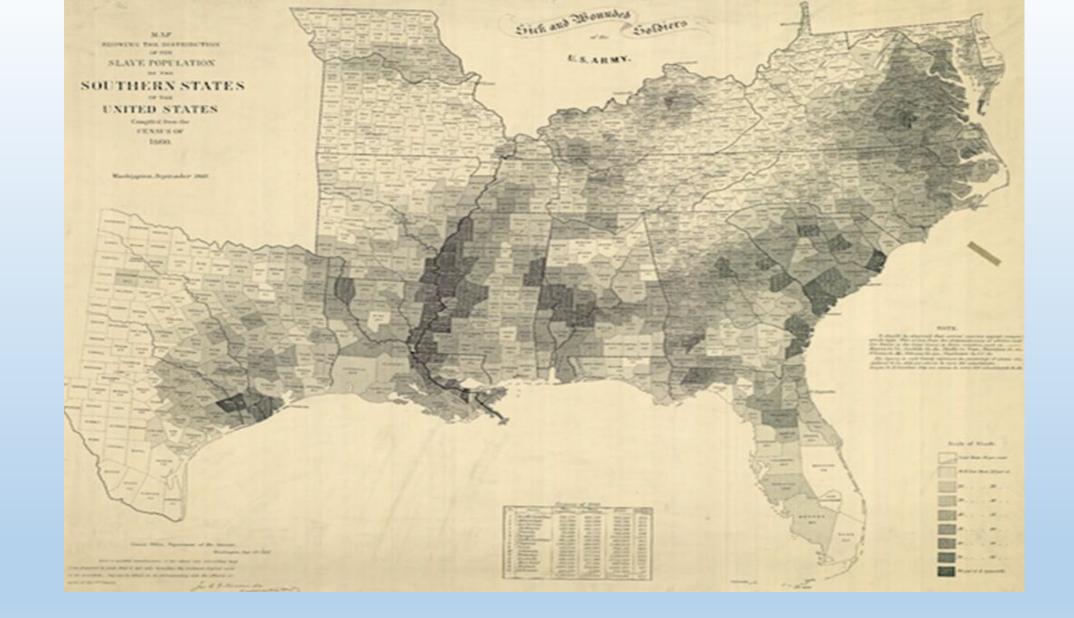
Getting Started: 1790-1850

- 1800-1850
 - 1810: Non-population questions added
 - Up to 1840: Head of household only
 - 1850: Individual Enumeration

1850 Census

SCHEDULE I. Free Inhabitants in District N.º 2 in the County of Fayettes of Kentucky enumerated by me, on the 7th day of Augt 1850. Ino. M. Monroe We											
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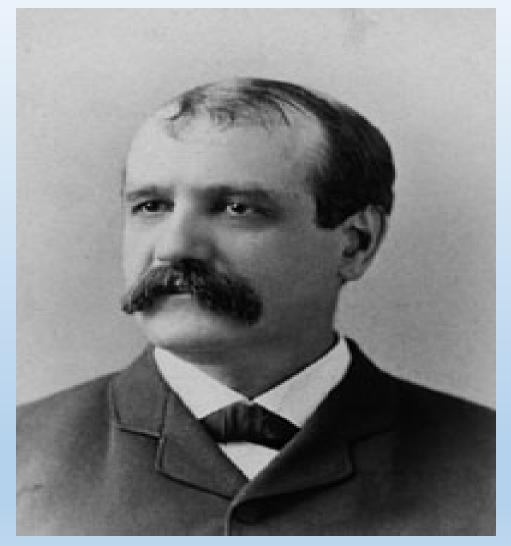








Francis Amasa Walker





STATISTICAL ATLAS

OF THE

CULTED STALES

BASED ON THE RESULTS OF THE

NINTH CENSUS 1870

WITH CONTRIBUTIONS FROM MANY EMINENT MEN OF SCIENCE AND SEVERAL DEPARTMENTS OF THE GOVERNMENT

COMPILED UNDER AUTHORITY OF CONGRESS

BY

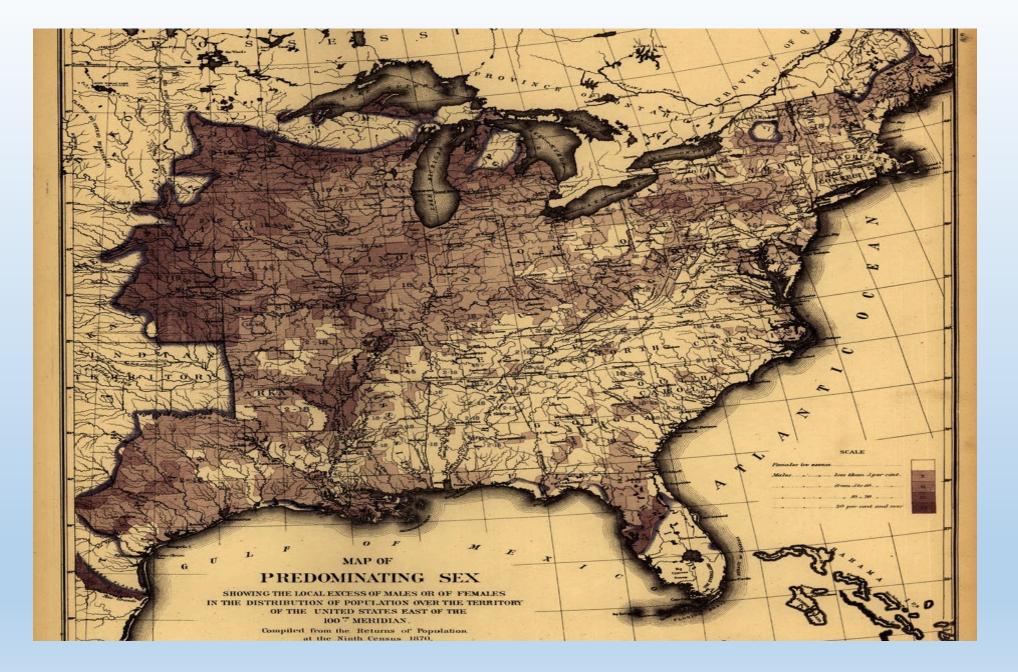
FRANCIS A.WALKER, M.A.

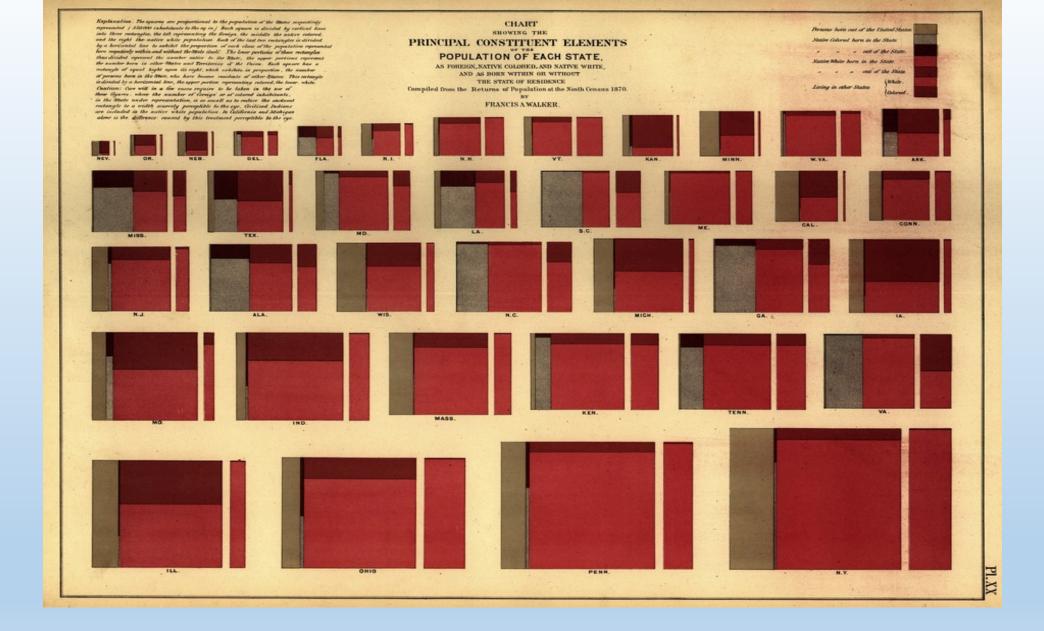
SUPERINTENDENT OF THE 9TH CENSUS,

PROFESSOR OF POLITICAL ECONOMY AND HISTORY, SHEFFIELD SCIENTIFIC SCHOOL OF YALE COLLEGE.

JULIUS BIEN, LITH.

1874.





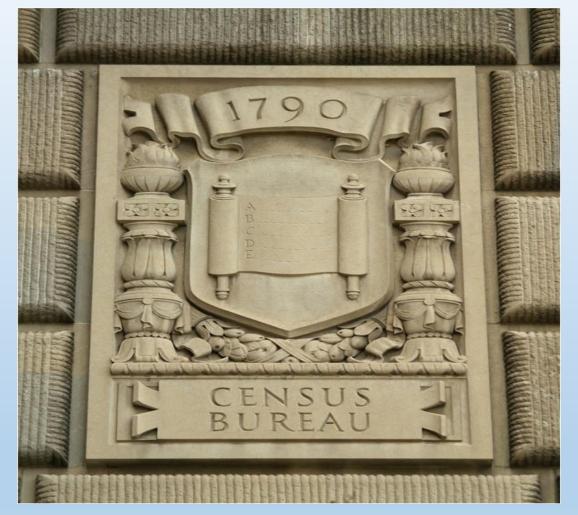
Becoming Scientific: 1850-1900

• 1890: Punch cards and automated processing

• 1918: American Statistical Association Advisory Committee



Transition: 1902-1930

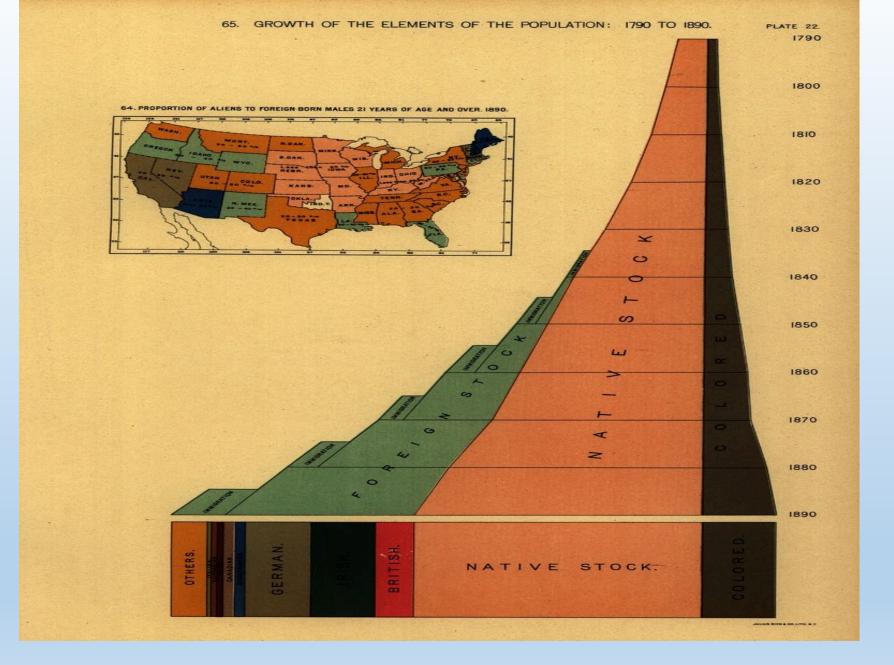


The Failed Census: 1920

- Census and Immigration Policy
- The Science of Reapportionment

America was Changing







The Method of Equal Proportions

Priority Order =
$$\frac{\text{Population}}{\sqrt{n(n+1)}}$$

n = number of members of Congress

Overview

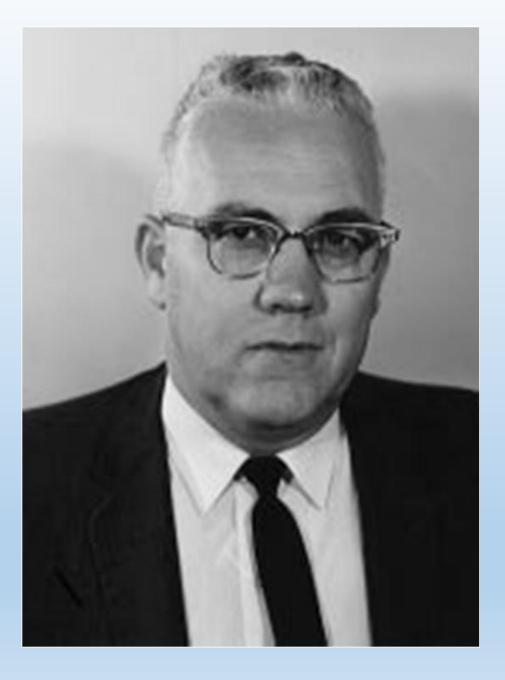
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The Hansen Years: 1940 – 1970



Morris Hansen





Evolution of Census Taking

- Sampling
- Imputation
- Computers

Sampling for the Census



Evolution of Census Taking

- Sampling
- Imputation
- Computers

CHARACTERISTICS

249

AND SEX, FOR CITIES OF 10,000 OR MORE: 1930-Con.

CITY AND AGE (YEARS)	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	ĻĻ CLY22	es	14	rive lite	1	EIGN- ; WHITE	NEGRO	
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Mail Out/Mail Back

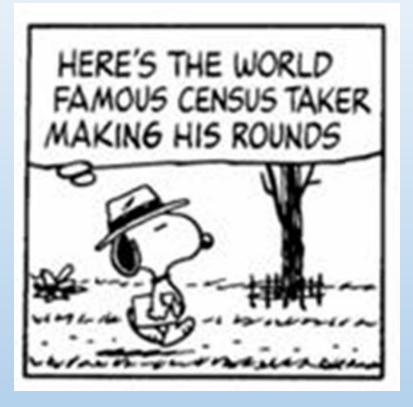
- 1960
 - Mail Out / Pick up
 - FOSDIC

- 1970
 - Mostly Mail Out / Mail Back
 - Sample Vacant Delete Check & PEPOC
- 1980 Almost the whole country

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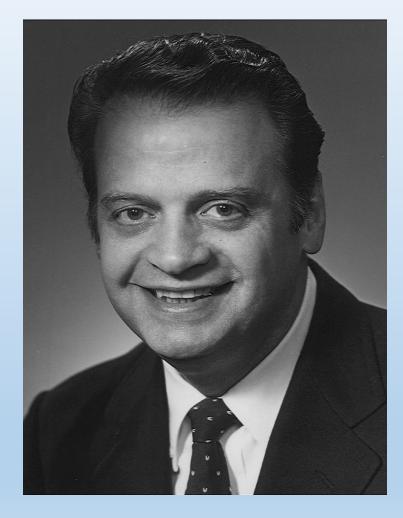
Modernizing the Census -- Again



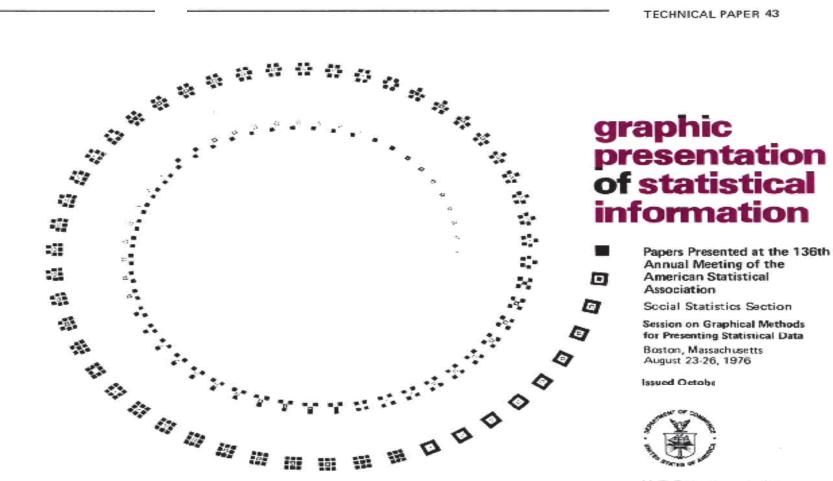


Vince Barabba

- Co-founder Decision Making Information
- Director of Market Intelligence
 - Xerox
 - Kodak
- Census Director
 - 1973-1976
 - 1979-1980
- 83rd ASA President

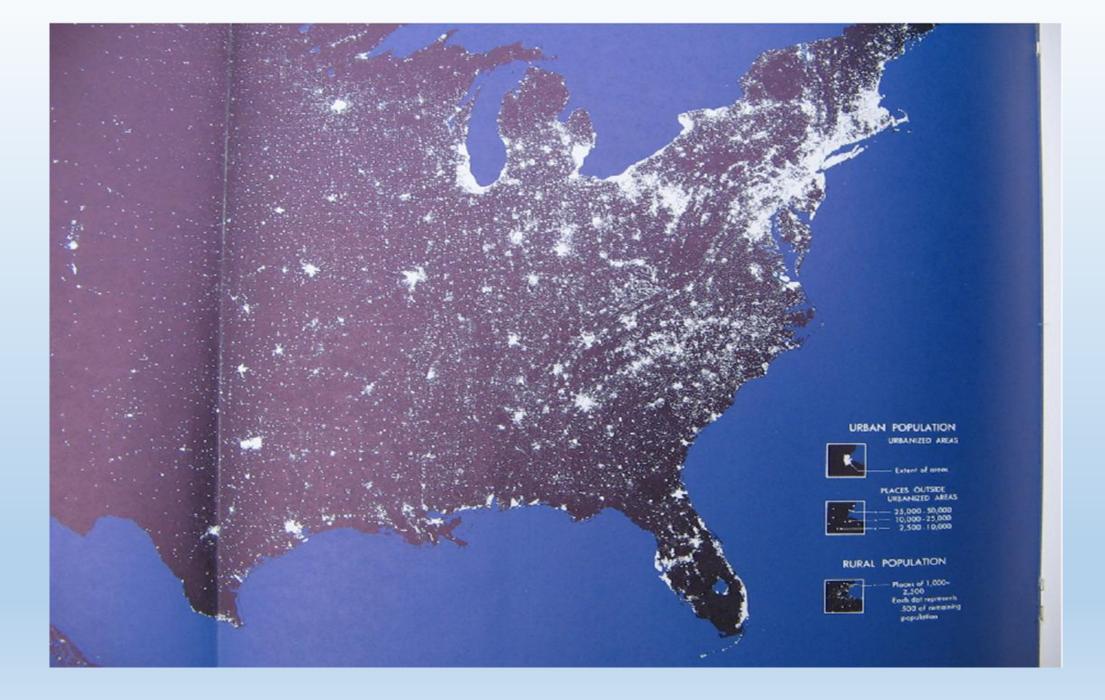


Computer Graphics



U. S. Department of Commerce Juanita M. Kreps, Secretary Courtenay M. Slater, Chief Economist







<u>Topologically</u> <u>Integrated</u> <u>Geographic</u> <u>Encoding</u>

and <u>R</u>eferencing database

Census 2010

9. What is Person 1's race? Mark X one or more boxes.

	White Black, A America				167°		/e —	- Pri	nt na	me ol	fenno	olled or pri	ncipa	l tribe	. 7
	☐ Chinese ☐ Korean ☐ ☐ Filipino ☐ Vietnamese ☐							Native Hawaiian Guamanian or Chamorro Samoan Other Pacific Islander — Prin race, for example, Fijian, Tongan, and so on.							
📃 Some other race — Print race. 🎸															

2010 Census Estimates of Same-sex Couples and DOMA

- Initial comparisons of 2010 Census counts of same-sex couples with recent ACS data:
 - •900,000 Census vs. 600,000 ACS
 - 350,000 spouses Census vs. 150,000 ACS vs. 50,000 in admin records

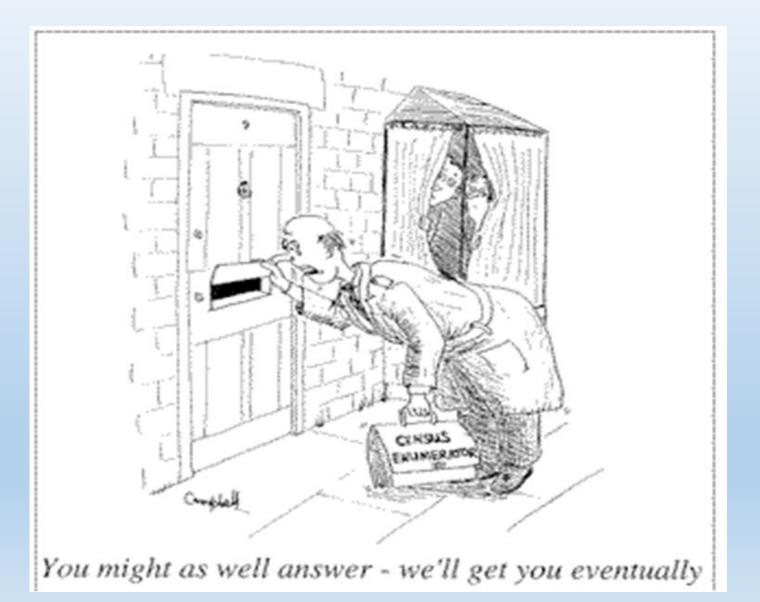
Why are 2010 Census Estimates of Same-sex Couples So High?

- H1: Errors in how we measured relationship or sex:
 - Data capture, questionnaire design, editing, processing
- H 2: Changes in society in how respondents interpret and report relationships
- Analysis confirms H1: pencil & paper NRFU form prone to errors
- Focus groups also shows little support for H2

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The Undercount Wars 1980-2000



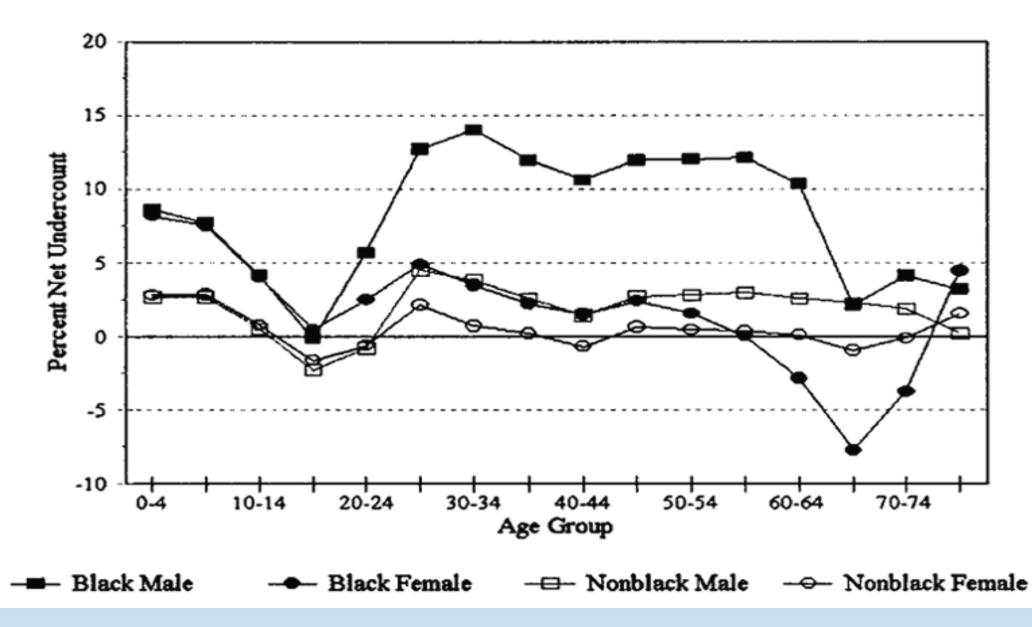
Coverage Evaluation & Correction

- 1850 Census for California
- Census Evaluation
- Statistical Correction of 1970

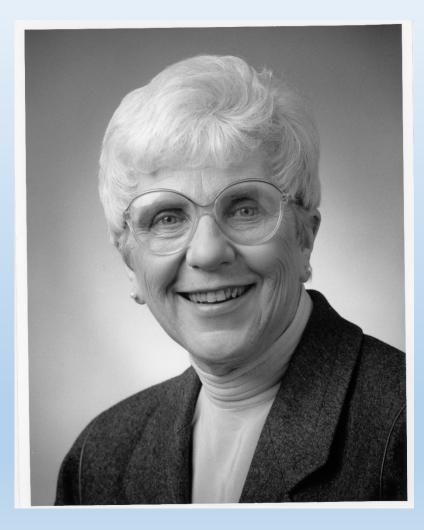
The foreign phenomenon of deliberately lying to the census enumerator and of hiding individuals or whole families is almost totally absent, even in the slums of our large cities.

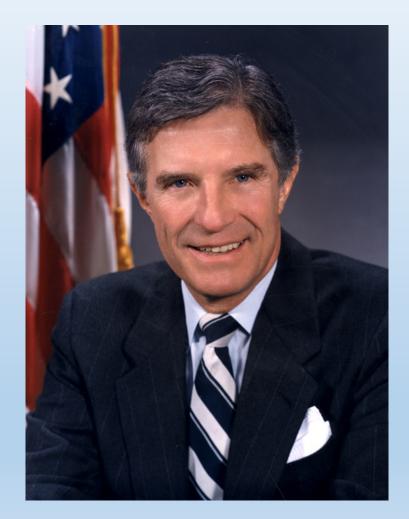
> William Lane Austin, Director of the Census March 22, 1939

Figure 1. Percent Net Undercount by Race, Sex, and Age: 1990 DA



1990 Adjustment Decisions

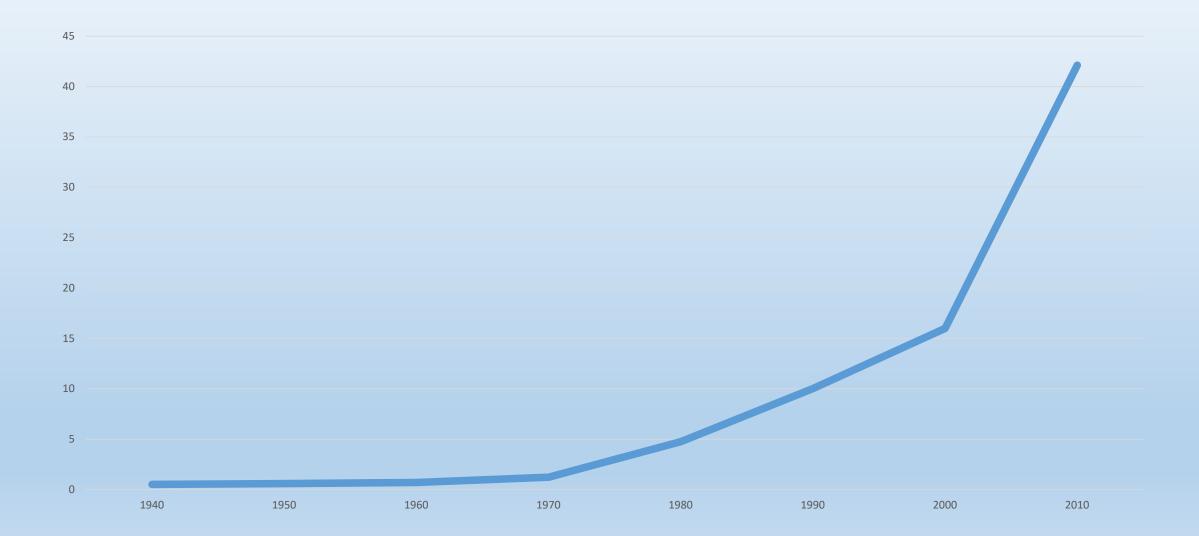




Impacts of Undercount Wars

- Increased Census Funding
- Use of Administrative Records
- Coverage Research Innovations
- Resistance to all statistical inference
- No Associate Director for Research and Methodology for 6 years: 2004-2010

Per Capita Cost in Dollars



Using Administrative Records

- Counting "overseas" Military, Federal Employees and their dependents.
 - Use of aggregated counts
 - No unduplication
 - Upheld in Franklin v Massachusetts
 - "Enduring Ties"
- 1990 Parolee and Probationer
 - Use of state and local records
 - Never challenged

1990 Coverage Research Innovations

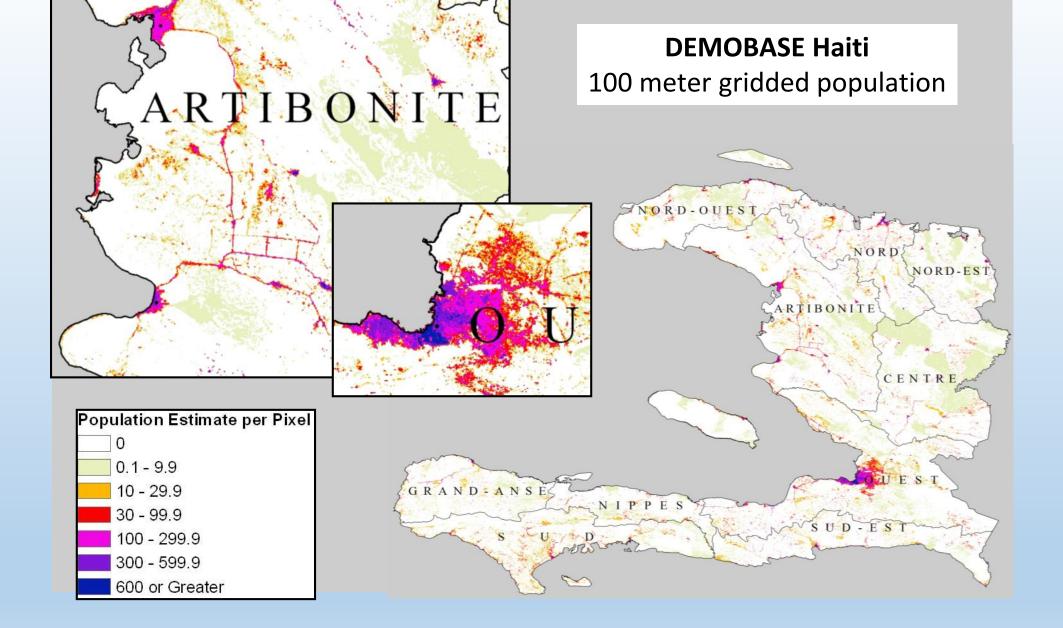
- Improved PES
- Computer matching system
- Computer assisted clerical matching
- Remote data access site
- Curb-stoning detection

Utah v Evans

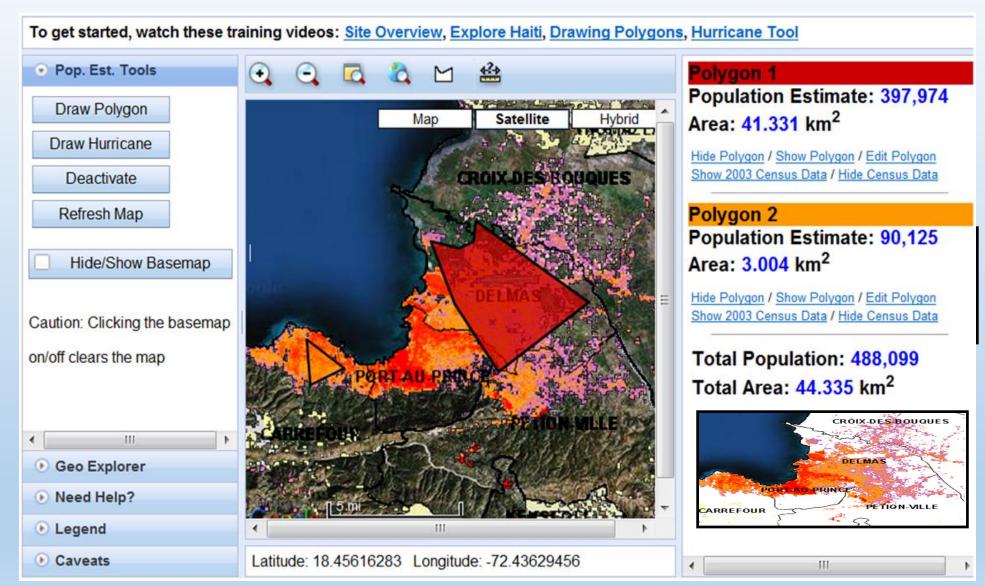


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Haiti: Custom Polygon Tool



Contact Information

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